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# THE MARYLAND PHARMACIST

Official Journal of  
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Pharmaceutical  
Association

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**Return Goods Policies**

**1979 Lilly Digest**

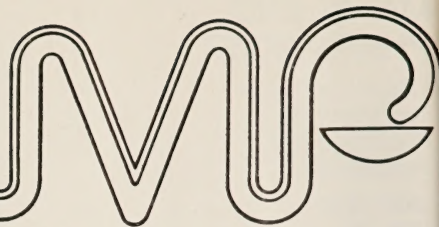
**The Life Span of a Drug**

*— John C. Krantz, Jr., Ph.D.*



# THE MARYLAND PHARMACIST

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How often do you have time to think about the future of Pharmacy? Most of us are so busy that it is really impractical to spend very much time concentrating on long range planning; especially as it is applied to the practice of pharmacy. Because of this, long range planning is one of the most important, yet least emphasized activities that the Association provides for its membership. If we do not plan now for our future, we may not have a future to plan for.

That is why I am taking this opportunity to point out the work of the Pharmacy Primary Care Committee which was recently activated. This Committee is actively seeking ways for pharmacists to expand the scope of care they are able to offer the public *and* get paid for these services. The Legislative Committee also attempts to pave the way for the future. Committee members analyze legislative proposals keeping in mind that they affect our professional futures as well as the present. The Board of Trustees and the Finance and Budget Committee concentrate to some extent on directing future trends of the Association and ultimately make decisions that will affect all Pharmacists, members and non-members. Planning for the future is important. Being prepared for the future is vital.

That is why the long range planning that we do may be one of the most important membership benefits that we can offer, even though it is the least appreciated.

RONALD LUBMAN



# Return Goods Policies

Reprinted with Permission from the *Nebraska Mortar and Pestle*  
Compiled by the National Wholesale Druggists Association

The Codes indicate correction procedures and disposition. Wholesalers, of course, should handle their own shipping errors. For manufacturers not listed below, contact wholesaler from whom merchandise was purchased. Shipping addresses may be different for returns.

## Explanation of Codes Policy

- 1 - No returns except originally manufactured as defective.
- 2 - Returns must be authorized by manufacturer.
- 3 - No authorization required up to dollars indicated, simply ship to manufacturer.
- 4 - Certified Request honored up to dollars indicated.
- + - Wholesaler prohibited from accepting pharmacy returns.
- \* - Some open packages accepted for adjustment, check written policy.
- - Wholesaler from whom merchandise was purchased is compensated for handling returns.

## NOTIFICATION

- H - Notify manufacturer Home Office
- B - Notify manufacturer Branch or Field Office.
- R - Manufacturer representative will approve at store level.
- W - Notify wholesaler who maintains list for manufacturer's representative.

## ADJUSTMENT

- X - Exchange
- F - Full Credit
- V - Variable Credit
- C - Cash Refund

## TRANSPORTATION FROM CUSTOMER

- P - Prepaid
- L - Collect
- I - Prepaid but included in adjustment.
- D - None - Destroyed on site or removed by representative

Policy	Notif.	Adjust.	Trans.	Manufacturer
2	R/H	X/F	P	Abbott Laboratories
2	W	F	I	Adria Laboratories
3		F	P	Allergan Pharmaceuticals
3		V		Alphaden
2	H	X	P	Alva/Amco Pharmacal
2	W			Amerace
2	B	X	D	American Safety Razor Co.
2	R	X	P	Ames Company
2+	H	F/X	P	Ar-Ex
2	H	V	P	Arbrook
1				Armour Blood Products
2*	R	X	D	Armour Pharmaceutical Co.
2	H/R	V	P	Arnar-Stone Laboratories
2				Arno Laboratories
2	H/R	F	P	Astra Pharmaceutical
3		V	P	Ayerst Laboratories
2	H	V		Bard Home Health Division
2	H/W	X/F	P	Barnes-Hind Pharmaceuticals
1				Becton Sterile Disposables
2	R/B	X/V	P	Becton, Dickinson and Co.
2	H/R	F	P	Beecham Laboratories
2	H		D	Belva Manufacturing Co.
2				Bishop Industries
2	H	V	P	Block Drug Inc.
2	R	V	P	Borden Chemical
2	H	V	P	Bourjois
2				Breon Laboratories, Inc.
2	H	V	P	Brimms Plasti-Liner
2+	W	V	P	Bristol Laboratories
2				Brite Industries Inc.

Policy	Notif.	Adjust.	Trans.	Manufacturer
2	R/W	X	D	Brockway Plastics
2+	H/R	X	I	Burroughs Wellcome Co.
2	W	F	D	Carnation
2	H	X	I	Carnrick
2				Carter Products
3				Cary Products
2+	R/H	V	P	Central Pharmacal
2	H			Chase Instrument
1	H			Chemtoy
2	R	X	D	Chesebrough-Pond's Inc.
2*	B	X/F	P	Ciba Pharmaceutical Company
2				Colgate-Palmolive Company
2	H	X	P	Commerce Drug Co., Inc.
2				Consolidated Royal
2	R	X	P	Cool-Ray, Inc.
2	R	C/X		Cooper Laboratories, Inc.
1	H			Countess Maritza
2	R	V	P	Cumberland Packing
2	B	F/X	P	Helene Curtis Industries
2	H	V	P	Davol, Inc.
2	R			The De Vilbiss Co.
2				Delagar
1	H			Dennison
2+	H	X	P	Dista Products Company
2	W	X/V/F	P	Dome Division
2	R/H	X	P	Dorsey Laboratories
2				Drackett
2				Duke
2	B			Eastman Kodak Company
2	H/R	V	P	Emko Company



Policy	Notif.	Adjust.	Trans.	Manufacturer
1	W	F	D	Epco-Engineered Products
1	H	X	P	Essex/Casco
2				Esta
2	H	F/X	P	Ex-Lax Pharmaceutical
2+	H	F/V	P	Faberge, Incorporated
2	R	X/V		Fellows Medical
2+	H	F/V	P	Flint Laboratories
2				Foster Grant Company, Inc.
2	H	V	P	G & W Labs
2	H	V	P	Gaylord Products
●				Geigy Pharmaceuticals
2	H	V	P	General Bandages
2	H	X	I	Gilbert Laboratories
2	W	X	D	Gillette Personal Care Div.
2	W	X	D	Gillette Safety Razor Div.
2	R			Glenbrook Laboratories
2	H	F	P	Glovers Imperial
1	H			Glyco Chemicals
2	H	X		Groom and Grow
2	H	X	P	Guardian Chemicals
2	H	F	P	J.H. Guild & Co.
2	H			Hankscraft Company
2	H	V		Hanson Scale
1	H			Health-O-Swim
4 \$15	R/H	X	D	Health-Rite Laboratories
2	R	V	P	Helmac Products
1	H			Henkel, Inc.
2	H			HI G Inc.
3\$500	W	F	P	Hoechst-Roussel Labs
2*	R	V	P	Holland-Rantos
2	H	V	P	Hoyt Laboratories
3	W	F	P	Humco Laboratory, Inc.
2	H	V	P	Hydron Products
1	H			Indiana Botanic
1	H			Indianapolis Glove
2	H	F/X	P	Ingram Pharmaceuticals
2	R	F	P	International Playtex
1	H			Iodent Chemical
2+	B/R	X/V	P	Ives Laboratories, Inc.
2	H	F	P	Ivy Corporation
2	R	F/X	D	J & J Baby Products Co.
2	R			J & J Health Care
2	H	V		Jackson Mitchell Pharm.
2	R/B	X/V	P	Jung Products, Inc.
3		V	D	Kasdenol Corporation
2	H			Kaz, Incorporated
2	R/H	X	P	Key Pharmaceuticals, Inc.
2	H	X	D	Keystone Laboratories
3		V	P	Kinney & Co.
2	H			Klutch Co.
2	H	X	D	Knickerbocker Rubber
2	H/R	X/F	P	Knoll Pharmaceutical
2				John G. Kyles, Inc.
2	H	V	P	LaCade Products
3	X			Lady Lennox
2	H	V	P	Lambda
2+*	B	X/V	P	Lederle Laboratories
2	B	F	P	Leeming Pacquin
2	H	V	P	Lemco Ltd.
2	R/H	X/V	P	Lemmon
2	H	X	P	Lewis-Howe
2+	H	X		Lexington Chemical
1+	H	X		Lif-O-Gen
2+	R/H	X	P	Eli Lilly and Company

Policy	Notif.	Adjust.	Trans.	Manufacturer
2	R	X		Loma Linda Foods
2	W	X/F	P	L'oreal
2	H	V		Ludens, Inc.
2				G. W. Luft
2	B	V	P	3 M-Home Health
2	H	X	P	Madison Laboratories
2	H	V		Mah-Zell
2	W	V	P	Mallinckrodt, Inc.
2*	R	X	P/D	Marion Laboratories, Inc.
2		X	P	Mascil (Balmex)
2	H	V	P	Maynard, Inc.
2	R	F/X	D	McNeil Consumer Products
2	B	X	P	McNeil Laboratories
2+	H/B	X	I	Mead Johnson Pharm.
2	H	X/F	P	Medicone Company
2●	W	X/V	P	Menley & James Labs
2	R		P	The Mennen Company
2	H			The Mentholatum Co., Inc.
3+*		V	P	Merck Sharp & Dohme
2	R/H	C	P	Merrell-National Labs
2	H	C	I	Miles Laboratories, Inc.
2	H	V		Miller Pharmacal
2	R/H	V	P	Miller-Morton Company
2	H		P	Moore/Kirk
2	H	V	P	J. I. Morris Co.
1	B			Morton Salt
2	H	X	P	Neutrogena Corp.
2	B	X/V	P	Norcliff Thayer, Inc.
2	H	X/V		Norgine Laboratories
2	H	F	P	Northern Central Co.
2	W			Noxell Corporation
2	H/R	X	P	O'Connor Products Company
2	H			Odol Chemical
2	H	V	P	Oral-B Company
2	R	X/V	P	Organon, Inc.
2	R	F	P/I	Ortho Pharmaceutical
2	R	X/C		Ovaltine
2	H	V	P	Owen Laboratories
2	R			Owens-Illinois
2	R/B		P	Parke, Davis & Company
1	H			F. H. Paxton
2+	H/R	V	P	Pennwalt Rx Division
2	B	X/F	P	Pentel of America, Ltd.
1	H			L. Perrigo Co.
2				Person & Covey
2				Personal Products Company
1	H			Perspi Cura
2		X		Peterson Ointment
2	H	X	I	Pharmacia Laboratories Inc.
2	H	X	I	Pharmaderm, Inc.
2	R/H	V	P	Pharmavite Pharmaceutical
2				Phenex
1	H			Phenex Ointment & Suppos.
2	H	V	P	Philips Roxane Labs
1	B	X/F	P	Polaroid Corporation
2	R			Pompeian Olive Oil
2	H	V	P	Posner Laboratories
2	W	X	P	Pro Brush Division
2				Proctor & Gamble Company
2	H	X/V	P	Purepac Pharmaceutical Co.
3		X/V	I/D	Reed & Carnrick
3\$100	H	V	P	Reid-Provident Labs
2	H	F	P	Riker Laboratories, Inc.
2	R	X		A. H. Robins Company

3*		C	P	Roche Laboratories
1	H			Ronson Corporation
2	H	F	D	Ross Laboratories
2+	H	X	P	Rowell Laboratories, Inc.
2	H			S.S.S. Company
2	H	X	P	Sandoz Pharmaceuticals
2		V	P	Schaffer Laboratories
2	R	V	P	Schering Corporation
2				Schick
2+	R	X	P	Schmid Laboratories, Inc.
2	B/R	X	P	Scholl, Inc.
2				Scripto
2	H	V	P	Searle Laboratories
●				Smith Kline & French Labs
2	H			Snow White Products
2				Sofskin
2	R	X	P	E. R. Squibb & Sons, Inc.
2	H	V	P	Stance Industries
2	H	V	P	Standard Pharmaceuticals
2	H			Strand Products
●				Stuart Pharmaceuticals
1	H			Sunbeam
2	B/R	F	P/D	Syntex Laboratories, Inc.
2	H	V	P	Tassaway
1	B	F	I	Teledyne Water Pik
2	R	V	D	Thermos Div. King - Seeley

2	H	X		Thompson Medical Company
1		X	P	Timex Corporation
2	H	V	P	Towne, Paulsen & Co., Inc.
1	H	F	L	United States Playing Card
2	B	F/X	P	The Upjohn Company
2	W	X		Vicks Health Care Division
2	W	X		Vicks Toiletry Products
2	H	X	P	Vio Bin Corporation
2	H	V	P	Walker Corporation
2				Warner-Lambert Company
2+	R	X	I	Warner/Chilcott
2	R/H	F	P	Webcon Pharmaceuticals
2	H	F		The Wella Corp.
2	H/R	X/F	P/D	Westwood Pharmaceuticals
1	H	X		Whittemore Polish Co.
3		V		Wickman Pharmaceutical
2	H		P	Wilson Sporting Goods
2			P	Winthrop Laboratories
1	H			F. Wolkow & Sons
1	H			The Woltra Co., Inc.
3*		V	P	Wyeth Laboratories
2	R	V	P	Yardley of London, Inc.
2	H	V	P	W. F. Young, Inc.
2+	R	X	D	Youngs Drug Products
1	H			Zelite Corporation

## Model Return Goods Policy

The Industry Relations Committee of the Maryland Pharmaceutical Association formed a subcommittee to study the issue of a Model Return Goods Policy. It was the feeling of the Committee, which is made up of manufacturing representatives and practicing pharmacists, that the policy should be fairly comprehensive and yet, provide some guidance and consistency in this area. The goal of the Committee was to develop a policy which could be endorsed by the Association in an attempt to establish a standard and which would be acceptable to both manufacturers and retailers.

The Committee recommends that members retain this page from the journal and refer to the following MPhA adopted policy whenever a question concerning returning merchandise arises. In addition, the Industry Relations Committee serves as an ombudsman whenever members refer a problem concerning this subject in writing to it.

### MODEL RETURN GOODS POLICY

1. New prescription drug products shipped to the pharmacy automatically by the manufacturer or wholesaler may be returned at any time for credit or exchange.
2. Regardless of expiration dates products may be returned for credit or exchange at any time, providing they are sealed, intact, original packages.
3. For patient protection, open packages of prescription drug products which are outdated may be returned for at least partial credit.
4. Authority for returns may be required by the pharmaceutical manufacturer or wholesaler—a form should be provided to the pharmacy.

### SAMPLE FORM to Return Merchandise

TO: (Name of Manufacturer)

Address — including the name of Town, County, State and Zip Code

(Note — the above as well as the policy for making returns may be located in the NWDA list of Mfgs. in January 1977 edition of the American Druggist Blue Book).

Please grant us authorization to return the following pharmaceuticals of your manufacture as per your policy:

It is best to list the items — listing complete packages as well as open containers. If a return of a schedule 2 is requested, be sure to give exact count and hold these aside as they usually will send a narcotic form. (Because of mail rates, it may be less expensive to have the drug inspectors destroy them.)

Note — If in their reply, they say they do not accept open containers — or — partially filled ones, call their attention to the fact that for the protection of the patient, as well as the pharmacist and the manufacturer, you believe it best they change their policy to permit them to accept them for credit.





*Carla V. Vannucci*    *Brian A. McDonald*    *Stephanie E. Bizz*    *Denise M. Beckmann*  
 Duquesne U.    Ferris State College    U. of California, San Francisco    Wayne State U.

## Remember the summer of '79?

Last summer, four young people joined The Upjohn Company as part of the NPC Pharmacy Internship Program.

They added to their educational process ... learned about manufacturing, quality control, pharmaceutical research, and marketing/sales.

We hope we answered their questions. Certainly, we took their suggestions to heart.

And when the 10 weeks were over, we parted knowing that we'll enjoy seeing each other in the years ahead.

And reminiscing about the summer of '79.

**Upjohn**

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# 1979 Lilly Digest

For the 29th consecutive year, the average *Lilly Digest* pharmacy posted higher sales. The growth rate was 7.0 percent, which reversed a two-year trend toward lower annual growth and was well above the average of 6.2 percent noted over the past ten years. Although total sales showed a favorable increase, a higher cost of goods sold forced the gross margin down once more, to 34.7 percent of sales (see Table 1). Total expenses decreased slightly but not enough to offset the gross margin reduction, with the result that net profit before taxes declined to an all-time low of 3.3 percent of sales.

The 1,556 pharmacies reporting 1978 data recorded average sales of \$345,302, an increase of 7.0 percent over the 1977 figure. It is noteworthy that this rate is significantly higher than the one-year growth rate of 4.2 percent during 1977. As shown in Table 2, prescription sales again surpassed other sales by posting an 8.7 percent gain, in contrast with a 5.3 percent increase in other sales. For the second consecutive year, total prescription revenue accounted for over half of the community pharmacy sales volume at 51.2 percent (up from 50.4 percent in 1977). This rise in prescription sales, in comparison with other sales, again reminds us of the strong impact the prescription department exerts on the financial picture of the average community pharmacy.

Of particular significance in 1978 was the higher cost of goods sold — up 0.2 percent as a share of sales. The result was the lowest gross margin level since 1957 (34.7 percent). The increase in the cost of goods sold — from 65.1 to 65.3 percent of sales in 1978 — was the major contributing factor to the decline in net profit percentage.

Faced with a rising cost of goods sold, managers usually attempt to reduce total expenditures percentagewise in order that net profit before taxes may remain stable. Unfortunately, even though proprietor's salary declined from 7.0 to 6.9 percent of sales and employees' wages fell from 11.8 to 11.6 percent, miscellaneous operating costs rose from 10.2 to 10.5 percent; this left total expenses only 0.1 percent lower than in 1977. These "economies" were insufficient to neutralize the reduction (0.2 percent) in gross margin that was responsible for the drop in net profit before taxes to 3.3 percent of sales during 1978.

Rent, as a percent of sales, declined slightly to 2.4 percent. This operating statistic had remained unchanged at 2.5 percent since 1962.

Miscellaneous operating expenses (comprising all expenses other than proprietor's or manager's salary, employees' wages, and rent) took a larger share of the sales dollar — going from 10.2 to 10.5 percent of sales in 1978 —

and contributed significantly to the 6.3 percent increase in total expenses.

Net profit before taxes exhibited a dollar increase of \$444, which showed a 4.0 percent growth over the previous year's figure for the average *Lilly Digest* pharmacy. However, when expressed as a percent of sales, it fell to 3.3 percent — down from 3.4 percent for 1977. The percentage decline of both net profit and proprietor's salary caused the total income of the proprietor to drop as a percent of sales from 10.4 percent in 1977 to 10.2 percent in 1978, even though total income rose in dollars by \$1,718, or 5.1 percent. It is interesting to see that the total income did attain a record high of \$35,363 before taxes.

Prescription revenue for the average 1978 *Lilly Digest* pharmacy demonstrated an 8.7 percent increase over the 1977 figure. Dollarwise, this amounted to \$14,074, a dramatic improvement over the 1976 data of 5.8 percent and \$8,896 respectively. The higher revenue during 1978 resulted from a 1.0 percent increase in the total number of prescriptions dispensed, coupled with a rise of 47 cents in the average prescription charge, from \$6.10 to \$6.57.

The average number of prescriptions dispensed reached a new 20-year high of 26,913 and reversed a two-year downtrend. The shares of new and renewed prescriptions changed slightly for the reporting period, although both increased in volume (by 86 and 178 respectively).

Again, as in years past, the size of the average prescription (the number of doses dispensed) increased and now stands at 138.6 (1967 = 100). Further discussion of prescription size will be found on page 00.

Total inventory investment increased in terms of dollars to \$56,942 but was unchanged as a percent of sales at 16.5 percent. Although prescription inventory required \$1,662 more in 1977, it remained the same as a percent of sales — 12.0 percent. This caused the prescription department's sales productivity to increase slightly, to \$8.36 per stock dollar (up 1 cent). Other merchandise rose \$1,898 in dollars; it also was unchanged as a percent of sales at 21.2 percent. This resulted in a small decline in productivity from \$4.72 to \$4.71 per dollar invested in inventory.

Previous *Lilly Digest* long-term projections suggested that community pharmacy sales would continue to rise in the future and that the prescription department would become more and more important to the economic livelihood of the enterprise. This forecast has proved valid. It was also forecast that most operating expenses and merchandise costs would increase — that, too, has come to pass. It is obvious that management's challenge will be to exert more effective control over such expenses and to halt the overall downtrend in profitability.





**Table 1** *Current trends in pharmacy operations*

Averages per Pharmacy	1978 1,556 Pharmacies	1977 1,712 Pharmacies	Amount and Percent of Change
Total sales	\$345,302—100.0%	\$322,755—100.0%	+\$22,547— 7.0%
Cost of goods sold	225,651— 65.3%	209,954— 65.1%	+\$15,697— 7.5%
Gross margin	\$119,651— 34.7%	\$112,801— 34.9%	+\$ 6,850— 6.1%
Expenses			
Proprietor's or manager's salary	\$ 23,896— 6.9%	\$ 22,622— 7.0%	+\$ 1,274— 5.6%
Employees' wages	39,914— 11.6%	38,063— 11.8%	+\$ 1,851— 4.9%
Rent	8,436— 2.4%	8,080— 2.5%	+\$ 356— 4.4%
Heat, light, and power	3,024— 0.9%	2,874— 0.9%	+\$ 150— 5.2%
Accounting, legal, and other professional fees	1,518— 0.5%	1,464— 0.5%	+\$ 54— 3.7%
Taxes (except on buildings, income, and profit) and licenses	5,132— 1.5%	4,855— 1.5%	+\$ 277— 5.7%
Insurance (except on buildings)	3,747— 1.1%	3,365— 1.0%	+\$ 382—11.4%
Interest paid	2,160— 0.6%	1,830— 0.6%	+\$ 330—18.0%
Repairs	1,091— 0.3%	1,122— 0.3%	— \$ 31— 2.8%
Delivery	1,502— 0.4%	1,430— 0.4%	+\$ 72— 5.0%
Advertising	4,004— 1.2%	3,772— 1.2%	+\$ 232— 6.2%
Depreciation (except on buildings)	3,028— 0.9%	2,655— 0.8%	+\$ 373—14.0%
Bad debts charged off	482— 0.1%	429— 0.1%	+\$ 53—12.4%
Telephone	1,280— 0.4%	1,178— 0.4%	+\$ 102— 8.7%
Miscellaneous	8,970— 2.6%	8,039— 2.5%	+\$ 931—11.6%
Total expenses	\$108,184— 31.4%	\$101,778— 31.5%	+\$ 6,406— 6.3%
Net profit (before taxes)	\$ 11,467— 3.3%	\$ 11,023— 3.4%	+\$ 444— 4.0%
Total income of self-employed proprietor (before taxes on income and profits)	\$ 35,363— 10.2%	\$ 33,645— 10.4%	+\$ 1,718— 5.1%
Value of inventory at cost	\$ 56,942— 16.5%	\$ 53,382— 16.5%	+\$ 3,560— 6.7%
Annual rate of turnover of inventory	4.1 times	4.0 times	
Hours per week pharmacy was open	65	65	No change

NOTE: These national averages are presented to give a composite picture of the average Lilly Digesit pharmacy. Comparisons for analysis should be based on the operations of pharmacies of comparable sales and prescription size which appear in one of the 33 arrangements in the "Heart of the Lilly Digesit."

**Table 2** *Current trends in prescription department operations*

Averages per Pharmacy	1978 1,556 Pharmacies	1977 1,712 Pharmacies	Amount and Percent of Change
Sales			
Prescription	\$176,705— 51.2%	\$162,631— 50.4%	+\$14,074—8.7%
Other	168,597— 48.8%	160,124— 49.6%	+\$ 8,473—5.3%
Total	\$345,302—100.0%	\$322,755—100.0%	+\$22,547—7.0%
Value of inventory at cost and as a percent of sales			
Prescription	\$ 21,133— 12.0%	\$ 19,471— 12.0%	+\$ 1,662—8.5%
Other	35,809— 21.2%	33,911— 21.2%	+\$ 1,898—5.6%
Total	\$ 56,942— 16.5%	\$ 53,382— 16.5%	+\$ 3,560—6.7%
Sales per dollar invested in inventory			
Prescription	\$8.36	\$8.35	+\$ 0.01—0.1%
Other	4.71	4.72	— \$ 0.01—0.2%
Size of area (square feet)*			
Prescription	378— 15.3%	371— 14.8%	+ 7—1.9%
Other	2,092— 84.7%	2,131— 85.2%	39—1.9%
Total	2,470—100.0%	2,502—100.0%	32—1.3%
Sales per square foot*			
Prescription	\$466.52	\$439.27	+\$ 27.25—6.2%
Other	81.43	75.94	+\$ 5.49—7.2%
Total	140.36	129.85	+\$ 10.51—8.1%
Number of prescriptions dispensed			
New	13,017— 48.4%	12,931— 48.5%	+ 86—0.7%
Renewed	13,896— 51.6%	13,718— 51.5%	+ 178—1.3%
Total	26,913—100.0%	26,649—100.0%	+ 264—1.0%
Prescription charge	\$6.57	\$6.10	+\$ 0.47—7.7%

Based on averages of pharmacies that reported all data

Averages per Pharmacy	1978 SOUTH ATLANTIC STATES (192 Pharmacies)	1977 SOUTH ATLANTIC STATES (230 Pharmacies)	1978 UNITED STATES AVERAGE (1,556 Pharmacies)
Sales			
Prescription.....	\$190,891 — 57.2%	55.2%	51.2%
Other .....	142,909 — 42.8%	44.8%	48.8%
Total .....	\$333,800 — 100.0%	\$306,553 — 100.0%	\$345,302 — 100.0%
Cost of goods sold.....	\$218,310 — 65.4%	64.6%	65.3%
Gross margin.....	\$115,490 — 34.6%	35.4%	34.7%
Expenses			
Proprietor's or manager's salary .....	\$23,959 — 7.2%	7.7%	6.9%
Employees' wages .....	39,350 — 11.8%	11.8%	11.6%
Rent .....	7,403 — 2.2%	2.4%	2.4%
Miscellaneous expenses .....	33,983 — 10.2%	10.0%	10.5%
Total expenses.....	\$104,695 — 31.4%	31.9%	31.4%
Net profit (before taxes) .....	\$10,795 — 3.2%	3.5%	3.3%
Total income of self-employed proprietor (before taxes on income and profits).....	\$34,754 — 10.4%	11.2%	10.2%
Value of inventory at cost and as a percent of sales			
Prescription .....	\$22,087 — 11.6%	11.8%	12.0%
Other .....	29,961 — 21.0%	21.1%	21.2%
Total .....	\$52,048 — 15.6%	16.0%	16.5%
Annual rate of turnover of inventory .....	4.3 times	4.2 times	4.1 times
Number of prescriptions dispensed			
New .....	14,999 — 48.7%	47.3%	48.4%
Renewed .....	15,790 — 51.3%	52.7%	51.6%
Total .....	30,789 — 100.0%	100.0%	100.0%
Prescription charge.....	\$6.20	\$5.83	\$6.57
Number of hours per week			
Pharmacy was open .....	63 hours	63 hours	65 hours
Worked by proprietor .....	42 hours	48 hours	50 hours
Worked by employed pharmacist(s) .....	29 hours	31 hours	46 hours

\*Source: 1979 Lilly Digest

Table 1 AVERAGE HOSPITAL PHARMACY			
	1978 (1721 hospitals)	1977 (2120 hospitals)	Percent of Change
Bed capacity .....	260	270	3.7%
Class.....	Private (nonprofit)	Private (nonprofit)	
Profile.....	General	General	
Census (beds occupied) .....	73%	74%	
Admissions .....	8590	10,008	-14.2%
Length of patient stay .....	8.0 days	7.3 days	
Hours central pharmacy open/week .....	85	79	+7.6%
Days central pharmacy open/week .....	6	6	
Pharmacist hours/week .....	219	187	+17.1%
Technician hours/week .....	206	180	+14.4%
Inventory .....	\$86,487	\$76,681	+12.8%
\$1.27/Patient day		\$1.05/Patient day	
\$333/Bed		\$284/Bed	
\$456/Occupied bed		\$384/Occupied bed	
\$10.07/Admission		\$7.66/Admission	
Purchases .....	\$460,667	\$392,470	+17.4%
\$6.74/Patient day		\$5.37/Patient day	
\$1772/Bed		\$1453/Bed	
\$2461/Occupied bed		\$1964/Occupied bed	
\$53.63/Admission		\$39.21/Admission	
Formulary.....	Yes	Yes	
Estimated inventory turnover rate .....	5.3 times	5.1 times	
Floor area (central pharmacy).....	1417 sq. ft.	1476 sq. ft.	
Services offered by over 50% of pharmacies			
Monitoring patient profiles		Monitoring patient profiles	
Monitoring drug interactions		Monitoring drug interactions	
Providing drug information services		Preparing I.V. fluids	
Drug therapy consultation		Providing drug information services	



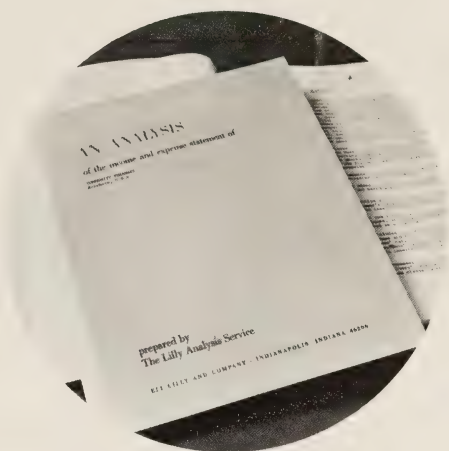
# R<sub>x</sub> For Profit



## **Lilly Digest**

An annual summary of financial operations of community pharmacies, arranged to allow comparison with any pharmacy's figures.

- Practical guide
- Standard accounting format
- Comparative reference

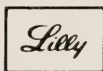


## **Lilly Analysis Service**

A detailed analysis available to individual pharmacy owners, with suggestions for improvements where indicated.

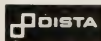
- Individually prepared
- Completely confidential
  - No charge

No wonder nearly five generations of pharmacists have depended on



900934

**Eli Lilly and Company**  
Indianapolis, Indiana 46206



**Dista Products Company**  
Division of Eli Lilly and Company  
Indianapolis, Indiana 46206

# Lopressor™

metoprolol tartrate

Tablets of 50 mg and 100 mg  
Available in bottles of 100s and 1000s  
and unit dose packages of 100s



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CIBA-GEIGY Canada Ltd.  
Dorval, P.Q. Canada H9C 1G1

Distributed by:  
CIBA-GEIGY Pharmaceuticals  
a division of CIBA-GEIGY Corporation  
Sunnyvale, Calif. 94086

## Geigy





# Has For Your PHARMACY A Complete Price Sticker and Order Entry Program.

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**THE SERVICE PROVIDES:** retail price sticker & shelf labels, allowing you selective pricing for all items you purchase. Plus customized pricing for up to 1500 items. Two price system.

## OVER THE COUNTER MERCHANDISE

TAME CR RIN 8 OZ.  
#5681 QTY 2  
334 1.25  
7312-1359

YOUR NAME  
\$1.25  
4MP  
2 032  
7312-1359

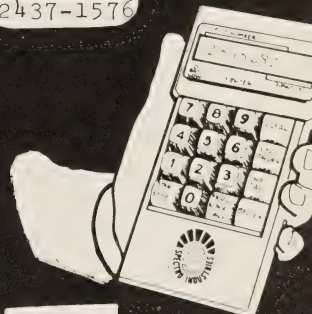
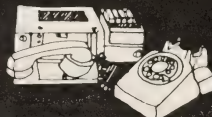
## RX MERCHANDISE

BENTYL TAB 20MG  
100 QTY 1  
NDC 68-0123-61  
2437-1576

NDC 68  
0123-61  
5D70  
1 032  
2437-1576

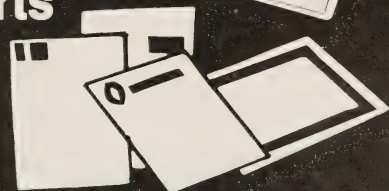
## Electronic Order Entry System

Electronic order entry Terminal for in-store use. It's lightweight, portable and enables you to order 200 line items in less than one minute. Transmits over telephone. Operational 24 hours a day . . . call at your convenience.



## Turnover and Profitability Reports

Customized series of ongoing Turnover and Profitability Reports for Your Store. Helpful information compiled from product movement of items in your store.



## CHECK THE BIG PLUS FEATURES:

- Store Identification Labels.
- Complete Product Information.
- Complete OTC and RX Pricing Stickers.
- Quarterly Label Color Change.
- Tamper-proof (non-transfer) security.
- Ink Screening of Coded Information.
- Deal Contents Have Price Stickers.
- Price Stickers for Selected Full Cases.
- NDC Numbers on All RX Products.
- Customized Pricing.
- Two Price System.

### REPLY COUPON

LOEWY DRUG CO.  
6801 QUAD AVENUE, BALTIMORE, MD. 21237  
YES, I'd like to get more FACTS ABOUT SPACE:

NAME \_\_\_\_\_

TITLE \_\_\_\_\_

STORE \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_



Dear Mr. Banta:

I had assumed from our past contacts that the Maryland Pharmaceutical Association (MPHA) understood the definition of "Usual and Customary" (U/C) which was being utilized by the Maryland Medical Assistance Program (MMAP) in their on-site visits for verification.

In reviewing the minutes of the Pharmacy Liaison Committee meeting held on November 13, 1979, it appears that you may still wish to have our definition documented. The following is the definition that our on-site teams use as a working document:

U/C prices are those charged to the "general public" for prescriptions. The MMAP defines "general public" as being "that patient group accounting for the largest number (more than 50 percent)" of the store's non-Medicaid prescriptions. This patient group does not include those who purchase or receive their prescriptions through other third-party payors, e.g. Blue Cross, Blue Shield, Aetna, etc.; neither does it include other patients who may be receiving "special prices", e.g. Senior Citizens, unions, religious groups, etc.

I hope this will clarify any possible misunderstanding of problems in this area.

Very truly yours

Jerome Niport, Director  
Medical Assistance Compliance Administration

M. Neal Jacobs, R.Ph.  
Belair Professional Pharmacy  
7414 Laurel-Bowie Road  
Bowie, Maryland 20715  
Dear Neal:

Thank you for your letter of September 7, 1979 indicating your concerns about the new security regulations and the failure to adequately give public notice of the hearing. The Board agrees with you that more notice of public hearings should be given to all practitioners prior to the hearing. This information is by law required to be published in the Maryland Register prior to any hearing and although we agree that this is not a widely disseminated piece of literature, it is the only mechanism in Maryland for dissemination of information concerning hearings. The Board did request sufficient money for a continuing newsletter that would help to alleviate the situation of lack of communication between the Board and registrants. Unfortunately, the Department of Health refused to allow us the necessary funds for us to proceed with this newsletter. We did indeed inform the Maryland Pharmaceutical Association prior to the hearing that the hearing would take place and what its intentions were. Therefore, I cannot answer the reason that the information appeared so late in the Maryland Pharmacist.

On your point concerning the exemption of those pharmacies under 1200 square feet from security regulations, the Board felt that this would destroy the intent of the regulation if this was allowed. Prior to 1975 Maryland Law required that the whole establishment be closed if a

pharmacist was not on duty. Under challenge of Giant Drugs the Attorney General ruled that a pharmacy department could be closed if tightly secured and the rest of the establishment could remain open regardless of whether a pharmacist was present or not. Thus, it was necessary for the Board to issue emergency orders that would ensure the security of dangerous drugs when a pharmacy was closed. Thus, under the present regulation a pharmacist would be able to leave his pharmacy open and leave the premises for whatever purpose, provided the pharmacy department was adequately secured. We can see no great difficulty for any pharmacy, either large or small, to conform with the regulations to ensure that controlled dangerous substances are not available and not easily accessible when a pharmacist is not on duty.

If you have any further questions or concerns on this matter, please feel free to contact me at any time.

Sincerely,

Paul Freiman  
Secretary

Dear Mr. Banta:

I was honored to speak before 100 Baltimore pharmacists at a breakfast meeting on August 2, 1979 at the Pimlico Hotel. Thank you for your magazine's coverage of that event which appears in the September issue of THE MARYLAND PHARMACIST, the official journal of the Maryland Pharmaceutical Association. The Association is an important one and your publication effectively communicates its interests and events.

Sincerely,

William Donald Schaefer  
Mayor

Donald Schumer  
Pen-Dol Pharmacy

Dear Don:

I have installed a computer capable of producing hard copy replicas of the Medicaid prescription/bill form.

The state has indicated they cannot accept hard copy bills because the physician's signature is not there.

1. All the other third party programs will accept my bills.
2. The state will accept tape to tape billing, without the physician's signature. (Is there some inherent different between pharmacists who use tape to tape and those who choose hard copy?)
3. No change in the state's operation (such as tape to tape required) would be necessary. The form would be printed identically to the current hand completed forms.
4. Since they are produced by the computer 100% accuracy in NDC numbers and etc. would be achieved.
5. There would be no problem with legibility.
6. Accuracy in pricing would be 100%.
7. Safeguards as to quantity dispensed and number of refills are automatically built.
8. A complete audit trail for each prescription (as well as each patient) is available immediately. This is difficult or impossible under the current system.
9. There are substantial patient benefits, allergy warnings, drug interaction warnings, therapeutic warnings, patient profiles automatically maintained.

I would appreciate your bringing this to the attention of the Medicaid Program through your committee.

Let me know if I can help.

Cordially,—

Marvin Oed



Dear Mr. Banta:

Maryland General Hospital has begun to supply physicians with green prescription blanks for controlled substances and white blanks marked not to be used for CDS items. During the transition period some physicians may inadvertently use the wrong blank. Pharmacists receiving prescriptions for CDS items on the wrong blank should check with the physician.

With the printing of these new blanks, Maryland General Hospital has illuminated any statement referring to generic equivalents or generic substitution.

Ronald C. Telak

Dear Dave:

As you are aware, the Board of Pharmacy has for many years been closely associated with the Division of Drug Control. As a result of this association, many pharmacists appear confused about the role of the Board as opposed to that of the Division of Drug Control. Within the past two years the Board of Pharmacy has developed its own identification, separate and distinct from that of the Division. Unfortunately, many pharmacists throughout the state still confuse the Board of Pharmacy with the Division of Drug Control.

In order to inform pharmacists of the new role of the Board of Pharmacy the Board would appreciate any opportunity to take part in association programs or present a program of their own on the Board and its present structure and goals and how they affect the practice of the individual pharmacist. We would be glad to participate in not only MPhA programs, but also in any programs by the affiliated local associations.

Sincerely,

Paul Freiman  
Secretary

Dear Sirs:

I would like to request that your publication carry an announcement of the following information:

NAME: 15th ANNUAL HOSPITAL PHARMACY SEMINAR

TOPIC: "QUALITY ASSURANCE/SERVING THE PATIENT"

SPONSOR: MARYLAND SOCIETY OF HOSPITAL PHARMACISTS

DATE: June 20, 21, and 22, 1980

PLACE: SHERATON-FONTAINEBLEAU INN  
10100 OCEAN HIGHWAY  
OCEAN CITY, MARYLAND

FOR INFORMATION CONTACT:

Mr. Joseph M. Ruppel  
Seminar Chairman  
Pharmacy Department  
Mercy Hospital  
301 Saint Paul Place  
Baltimore, Maryland 21202

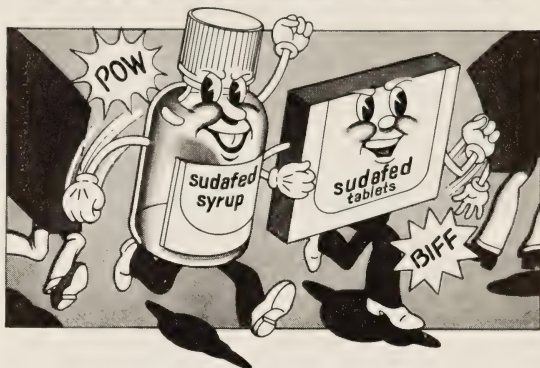
Thank you for your consideration.

Sincerely,

Douglas W. Campbell, R.Ph.  
Seminar Committee, Publicity  
Maryland Society of Hospital Pharmacists

OF ALL THE OTC COLD PRODUCTS  
NOW ON YOUR SHELVES...

**SUDAFED® IS #3\***



**SO WATCH OUT Contac®...**

From 1975 through 1978, SUDAFED was the fastest growing cold product on the market.

In fact, last year SUDAFED sold more than 4,000,000 (24-tablet) boxes, 1,000,000 (100-tablet) bottles...plus 2,000,000 (4-ounce) bottles of syrup...all OTC.

**MOVE OVER DRISTAN®...**

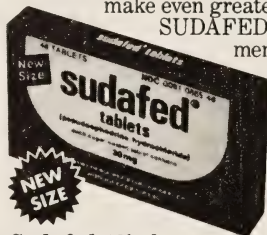
In drugstore sales of 24's and 100's tablets, SUDAFED is the third best-selling OTC cold product. (In fact, the 100-tablet size is now #1.)

**MAKE ROOM FOR SUDAFED**

SUDAFED sells!...the statistics prove it. For you to make even greater profit from fast-selling SUDAFED all you have to do is recommend and prominently display it. That's right, just recommend and display it.

Give the fastest growing cold product the shelf space it deserves...and it'll sell itself.

**Single-entity SUDAFED opens the nose without closing the eyes.**



Sudafed 48's for even greater profit.

**sudafed®**  
(pseudoephedrine HCl)  
30 mg tablets/syrup

**DECONGESTION WITHOUT DROWSINESS**

\*Source: IMS America; based on drugstore sales of OTC Sudafed 24's and 100's.



Burroughs Wellcome Co.  
Research Triangle Park  
North Carolina 27709

# The Life Span of a Drug

John C. Krantz, Jr., Ph.D.  
Professor Emeritus  
Department of Pharmacology  
University of Maryland  
School of Medicine

A drug endures through the ever-approaching future if in the experience of the physician and/or the general public it achieves what it is alleged to do in the relief of pain and suffering.

Consider a few of the prescription drugs that in the experience of the physician and the ailing patient have been shown to produce stellar results. A few years ago we celebrated the 200th anniversary of William Withering's discovery of the use of digitalis in the treatment of dropsy owing to heart failure. The life of digitalis as a drug eminently deserves the enviable position it holds in the treatment of cardiac failure. Nitroglycerin was first used by William Murrell of England in the treatment of angina pectoris about a century ago. The experience of the cardiologist and of the anginal patient have given this drug a century of use in coronary artery insufficiency diseases and it has endured.

The distinguished Dutch cardiologist Karel F. Wenckebach observed in 1914 a merchant who suffered with malaria and atrial fibrillation. He found that the cardiac condition was ameliorated when the patient underwent quinine treatment for malaria. Four years later W. Frey observed that the isomer of quinine, quinidine was superior to quinine in the treatment of cardiac arrhythmias. Through more than a half a century quinidine has remained one of the principal cardiac drugs — justified by the experience of the physician and the patient.

It is roughly estimated, based on a cost of product, that one half of the medicine ingested by the public is used without medical advice. This should not be alarming for the astute Sir William Osler pointed out many years ago, that among all the primates man was the only one that likes to take medicine. In this category of drugs (OTC) four of the most generally used are laxatives, cough and cold remedies, antacids and analgesics.

The laxatives that we have used for years are still with us. The experience of the people prove their effectiveness. Phenolphthalein, senna preparations, milk of magnesia are among the most generally used.

For the treatment of coughs, codeine and dextromorphan used in a syrup appear to be most generally used and show by the experience of the people their effectiveness.

For heartburn, gastric distention, eructation and hyperacidity with or without a peptic ulcer, the various antacids are effective and have shown their value in affording relief over many years.

For the relief of pain the choice of a suitable analgesic again is determined by the experience of the people. For all the forms of the arthritides, since one is dealing with pain involving inflammation, aspirin is the drug of choice. The experience of eight decades reveals its effectiveness. Based upon the same reasoning, aspirin would be the drug of choice in neuralgic headaches, myalgia and tendonitis as these conditions involve inflammation.

Many of the older effective analgesics have been abandoned owing to untoward and dangerous side effects upon heavy dosage. Besides, acetaminophen is not particularly useful where inflammation is involved.

All drugs have a benefit/risk ratio that ultimately, through the experience of the people, determines their life's span of use. Aspirin produces microbleeding in the stomach in less than one percent of the heavy users of the drug. This can be avoided by taking the drug well buffered with much water. The people have sounded no uncertain trumpet recording their experience, they ingest twenty to thirty tons daily of aspirin.

## calendar



- JAN. 9 (Wed.) — Prince George/Montgomery Co. Assn. meeting with USP
- JAN. 10 (Thurs.) — Monthly Meeting — Maryland Society of Hospital Pharmacists
- JAN. 12-19 — ARUBA WITH MPhA
- JAN. 16 (Wed.) — Women in Pharmacy meeting — Kelly Memorial Building
- FEB. 10 (Sun.) — BMPA Banquet, Blue Crest
- MAR. 23 (Sun.) — AZO Berman Seminar: Rehabilitative Medicine
- APRIL 19-24 — APHA Convention, Washington, D.C.
- JUNE 20-22 — MSHP Annual Seminar — "Quality Assurance/Serving the Patient"
- JUNE 15-19 — MPhA CONVENTION — CAROUSEL IN OCEAN CITY, MARYLAND — START THINKING SUMMER . . .

Every Sunday Morning at 6:15 a.m. listen to Charles Spigelmire on WCAO broadcast the Pharmacy Public Relations Program "Your Good Neighbor," the oldest continuous public service show in Baltimore.



# The Maryland Poison Information Center

**EMERGENCY (301) 528-7701**  
**PHONES: Metropolitan Baltimore**

**1-800-492-2414**  
**Elsewhere in Maryland**

**BUSINESS**  
**PHONE: (301) 528-7604**

## DESCRIPTION

The Maryland Poison Information Center (MPIC) is a 24 hour emergency telephone service which provides toxicity and treatment information in case of poisonings. A division of the University of Maryland School of Pharmacy, the MPIC is staffed by registered pharmacists and specially trained poison control officers with on-call medical back-up. As a regional center for the National Poison Center Network (NPCN), the MPIC has one satellite center, TRI-STATE POISON CENTER, located at Sacred Heart Hospital in Cumberland, MD. The MPIC is a member of the American Association of Poison Control Centers.

## RESOURCES

In order to provide up-to-date, accurate information, the MPIC maintains extensive resources. These resources include: (1) *Poisindex*, a microfiche system with over 160,000 listings. Compiled by the Rocky Mountain Poison Center in Denver, Colorado, *Poisindex* is updated and expanded every three months; (2) NPCN telecopier, which links the MPIC to its satellite center and the NPCN national headquarters in Pittsburgh as well as with all other NPCN centers; (3) National Clearinghouse Product Data Cards. These cards, which contain confidential ingredient data supplied by manufacturers for emergency use, are distributed monthly by the Division of Poison Control, Bureau of Drugs, Food and Drug Administration, HEW.

## CONSULTANTS

In addition to the resources available within the Center, the MPIC has contact with many expert consultants who have made themselves available on an "as needed" basis. These people share their expertise in areas ranging from plants and drugs to snake bites and heavy metal poisoning.

## OUTREACH

The MPIC is actively involved in poison prevention education programs for the general public and health professionals. In addition to promoting and distributing the MR. YUK stickers and the Under 5 Understanding Cards developed by the NPCN, the MPIC has produced informational brochures available on: accidental poisonings, poisonous plants, holiday hazards, etc. To aid pre-school and elementary school teachers, the MPIC has compiled a Teachers Resource Kit.

Inservice programs for emergency room and pediatric personnel are conducted throughout the state by the MPIC.

## STAFF

Director — Gary M. Oderda, Pharm.D.  
 Assistant Director — Wendy Klein Schwartz, Pharm.D.  
 Coordinator for Public Information and Program Evaluation —  
 Jacquelyn S. Lucy, M.A., M.Ed.

## MARYLAND POISON INFORMATION CENTER SUMMARY OF DATA 1977-78

### CALLS RECEIVED:

	1976	1977	% of yearly increase	1978	% of yearly increase
Exposures <sup>1</sup>	18,020	20,661	+14.7	21,890	+5.6
Inquiries <sup>2</sup>	4,656	6,649	+42.6	7,121	+6.6
<b>TOTAL CALLS</b>	<b>22,676</b>	<b>27,310</b>	<b>+20.4</b>	<b>29,011</b>	<b>+5.9</b>

<sup>1</sup>Exposures — all calls involving *human exposure* to a substance (toxic or non-toxic — by any route (oral, topical, rectal, etc.)

<sup>2</sup>Inquiries — all *other* calls

### OUTCOME OF CALLS — 1977

Total calls from home or other non hospital setting.....	15,752 (85.6%)	18,396 (89.0%)
No treatment required or treated at home.....	1,073 ( 5.8%)	
Patient referred to an ER and admitted.....	200 ( 1.1%)	
Outcome unknown.....	1,371 ( 7.5%)	
Total calls involving patients already at a hospital.....		2,265 ( 11.0%)
ER visit only.....	1,628 (72.0%)	
ER visit and admit.....	637 (28.0%)	
		20,661 (100%)

### FATALITIES REPORTED TO MPIC 7

### OUTCOME OF CALLS — 1978

At home — No treatment/Treated.....	17,027 (77.8%)
ER — WALK-IN/Referrals.....	2,901 (13.2%)
ER — ADMITTED.....	915 ( 4.2%)
Refused Treatment.....	217 ( 1.0%)
Lost to follow-up.....	830 ( 3.8%)
	21,890 (100.0%)

### FATALITIES REPORTED TO MPIC 10





From Lederle Standard Products...

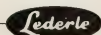
# A Cough/Cold Deal that's nothing to sneeze at!

To ring in 1980, Lederle is offering a special deal that won't get lost in the shuffle. In January and February, you can save 15-25% on every Lederle Standard Products cough/cold preparation. But that's not all.

## The terms:

- On orders of \$50.00: List price\* **less 15%**
- On orders of \$100.00: List price\* **less 20%**
- On orders of \$200.00: List price\* **less 25%**
- 60 days additional dating on orders totaling \$100 or more during the deal period
- Reorder privileges on minimum orders of \$25.00 thru June 30, 1980
- Reorder discounts at best qualifying deal levels:
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# ABSTRACTS

Excerpted from PHARMACEUTICAL TRENDS, published by the  
St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor  
and Leonard L. Naeger, Ph.D., Associate Editor.

## ANTIBIOTIC-INDUCED COLITIS

The administration of various antibiotics has produced colitis in a small percentage of patients, but lincomycin and clindamycin are most often implicated. Some evidence indicates that *Clostridium difficile* produces a toxin which may produce the irritation and symptoms of colitis. Approximately 30% of the cultures of this organism are resistant to clindamycin and these resistant strains are often found in patients with colitis. Vancomycin, when used orally, has been found to help reduce the symptoms of the disease as well as aid in eliminating the organism and its toxin. *BR MED J*, Vol. 2, #6186, p. 349, 1979.

## SALT INTAKE

It has frequently been suggested that hypertensive individuals limit their sodium intake in order to help regulate blood pressure. A 36 patient study has questioned the effectiveness of this restriction. Salt restriction seemed only to have a minor effect on blood pressure and the authors of this study suggest that sodium restriction not be substituted for drug therapy in hypertensive patients. *LANCET*, Vol. II, #8134, p. 121, 1979.

## DIAZEPAM TOXICITY

Diazepam (Valium) has been used together with other drugs in attempted suicides. Only infrequently is it the sole cause of death. A study which reviewed histories of almost 1300 patients whose death was attributed to drug overdoses found only two instances where diazepam was the solely implicated agent as the cause of death. Diazepam is certainly not a completely safe drug, but it does have a definite advantage over the barbituates and related compounds. *J AM MED A*, Vol. 242, #5, p. 429, 1979.

## RESEARCH

A review of articles appearing in three major American medical journals produced information which suggests that the quality of research experimentation is decreasing. An increase in cross-sectional studies was noted and approximately 10% of the articles reviewed from the 1976 sample of literature contained no control data. *N ENG J MED*, Vol. 301, #4, p. 180, 1979.

## IPECAC

Syrup of ipecac is readily available, inexpensive, and effective as an emetic. It has been given together with fluids to enhance its onset of action and some clinicians have suggested that the temperature of the fluid administered with the ipecac may alter its onset of action. Volunteers were given syrup of ipecac with 8 ounces of water, either at 10 degrees C or at 40 degrees C. Vomiting occurred in both groups after approximately 30 minutes and thus the authors have concluded that the temperature of the water is not critical in determining the onset of action in syrup of ipecac. *CLIN TOXIC*, Vol. 14, #3, p. 281, 1979.

## PRazosin

Prazosin (Minipres) is a relatively new vasodilator which has been found to be useful in treating hypertension. Closer investigation into its antihypertensive effect shows that the drug is capable of reducing plasma renin concentrations and can block post-synaptic alpha-adrenergic receptors. The authors postulate that other alpha-adrenergic blocking agents, e.g. phentolamine (Regitine), do not exert a sustained antihypertensive effect because they not only block the post-synaptic receptor site, but they also inhibit a presynaptic receptor site which acts to regulate norepinephrine concentrations via a feedback mechanism. Conventional alpha receptor blockers inhibit activity at both sites and thus reduces the effectiveness of the blockade. Prazosin blocks only the post-synaptic receptor and therefore there is no tendency for the nerve ending to release norepinephrine. *J CLIN PHAR*, Vol. 19, #7, p. 357, 1979.

## HYPERTENSION

Patients with orthostatic hypotension may be treated with mineralocorticoids, especially fludrocortisone (Florinef). Initial effects of mineralocorticoid therapy include fluid and sodium retention along with an increase in blood pressure, especially when the patient is in the recumbent position. Clinicians are asked to use mineralocorticoids with care in order to prevent complications of high blood pressure — including hypertensive retinopathy and cardiomegaly. *N ENG J MED*, Vol. 301, #2, p. 68, 1979.

## SMOKING

The amount of carboxyhemoglobin increases as one smokes and hence the ability of the blood to carry oxygen decreases. This can be of special concern to pregnant women and thus a study was conducted to determine if stopping the smoking of cigarettes would be of value during delivery or surgery. It was noted that the cessation of smoking for 48 hours prior to delivery or surgery will cause an 8% increase in available oxygen. Since this is considered to be significant, it is suggested that smoking be discontinued 48 hours prior to such procedures to help insure adequate tissue oxygenation. *BR MED J*, Vol. 2, #6186, p. 355, 1979.

## MEZLOCILLIN

A new penicillin derivative, mezlocillin, has been found to be active in-vitro against a wide variety of organisms. Aerobic and anaerobic cocci are susceptible to the antibiotic in addition to most Gram-negative bacteria, most indole negative Proteus species, and Pseudomonas. The drug is currently being used by the intravenous route. *CLIN PHARM*, Vol. 26, #2, p. 228, 1979.



### TOLFENAMIC ACID

A new inhibitor of prostaglandin synthesis, tolfenamic acid, has been used successfully in the treatment of migraine headache. The drug, when used in a double-blind fashion, was preferred to ergotamine by patients with migraine headache. Although tolfenamic acid was no more effective than ergotamine in reducing the symptoms of the migraine headache, it produced fewer side-effects, especially nausea, and thus was preferred by the majority of the patients in the study. *LANCET*, Vol. II, #8138, p. 326, 1979.

### ASTHMA

Patients experiencing an acute attack of asthma are often given epinephrine and/or aminophylline to help abort the attack. A controlled study conducted at Johns Hopkins Hospital indicates that epinephrine alone is the preferred treatment for use during an acute asthmatic attack because the addition of aminophylline to the regimen did not produce any extra benefit to the patient. *J AM MED A*, Vol. 242, #7, p. 639, 1979.

### PROSTAGLANDIN D-2

Platelets possess a receptor site capable of binding prostaglandin E-1 and prostaglandin I-2. In addition, they appear to have a site which is capable of binding prostaglandin D-2. Patients with myeloproliferative disorders have been found to have fewer prostaglandin D-2 receptor sites and thus more about these diseases and platelet function may be learned by designing experiments to utilize this knowledge with direct binding analysis techniques. *J CLIN INV*, Vol. 64, #2, p. 586, 1979.

### INTERFERON

Approximately 60% of the patients who had a history of herpes simplex infection experience a reactivation of the disease after operations on the trigeminal nerve root. It was noted that patients exposed to microvascular decompression of the trigeminal sensory root and given a dose of interferon obtained from human white blood cells did not demonstrate the high incidence of reinfection noted in patients not receiving the interferon. *N ENG J MED*, Vol. 301, #5, p. 225, 1979.

### DIGOXIN

Prescriptions for digoxin were reviewed in an effort to determine if dosage adjustments were being made for age, decreased renal function, and atrial fibrillation. Most of the 47,000 prescriptions reviewed indicated that general practitioners were following good prescribing practices. The authors recalled the problems associated with bioavailability of digoxin products and were somewhat alarmed that only 40% of the prescriptions were filled with Lanoxin. *J AM MED A*, Vol. 242, #5, p. 445, 1979.

### PEDIATRIC LIQUIDS

A retrospective study conducted with a group of 44 children was designed to determine if a difference could be found in the incidence of dental caries in those children who used pediatric liquid preparations containing sucrose as

compared to children whose medication contained artificial sweeteners. Children under the age of 6 years who had received sucrose-containing preparations on a regular basis for 6 months were found to have a significantly higher incidence of dental caries and gingivitis than did the group which received medication prepared without the use of sugar. *BR MED J*, Vol. 2, #6181, p. 14, 1979.

### ANTICONVULSANT EFFECT

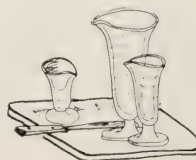
It has long been known that beta-adrenergic receptors can be found in the brain, but the role of these receptors is unknown. Experimental evidence indicates that stimulation of these receptors may increase the likelihood of convulsions. To examine this possibility, propranolol (both D and L enantiomers) were administered followed by a chemical or an electrical stimulus. Both isomers of propranolol protected against convulsions, but the L-isomer produced more benefit. Investigators feel that the greater benefit produced by the L-isomer is due to its ability to penetrate the central nervous system more rapidly than the D-isomer. *J PHARM PHA*, Vol. 31, #7, p. 482, 1979.

### CEFOXITIN

The gonococcal organism, *Neisseria gonorrhoeae*, has become resistant to penicillin in certain parts of the world. Various substitutes have been examined in order to secure a drug which would control infections due to the resistant organism. In-vitro tests show that the penicillinase-producing organism is sensitive to cefoxitin, and a clinical trial was designed to examine the effect of this cephalosporin derivative in clinical situations. Although penicillin and cefoxitin worked equally well in treating infections produced by non-penicillinase producing bacteria, penicillin itself failed to produce a cure in 77% of those patients infected by the resistant strain. Cefoxitin was completely successful in producing a cure in patients with infections produced by the resistant bacteria. The cephalosporin was used in doses of 2 grams and was combined with lidocaine (Xylocaine) in order to decrease the pain at the injection site. *N ENG J MED*, Vol. 301, #10, p. 509, 1979.

### ANTIBIOTIC UTILIZATION

Approximately 40% of the antibiotics used in this country today are used for the purpose of preventing or treating infections in animals. This observation has led investigators to postulate what effect this might have on the development of bacterial resistance in humans. Agriculturalists blame the observed resistance on poor antibiotic utilization by physicians and point out that if the use of antibiotics was only slightly limited, prices for products derived from the beef and poultry production would increase from a minimum of 3% to as high as 28%. Antibiotic utilization and the development of resistance by bacteria will remain a topic of controversy for some time. *JAM MED A*, Vol. 242, #14, p. 1464, 1979.



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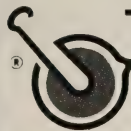


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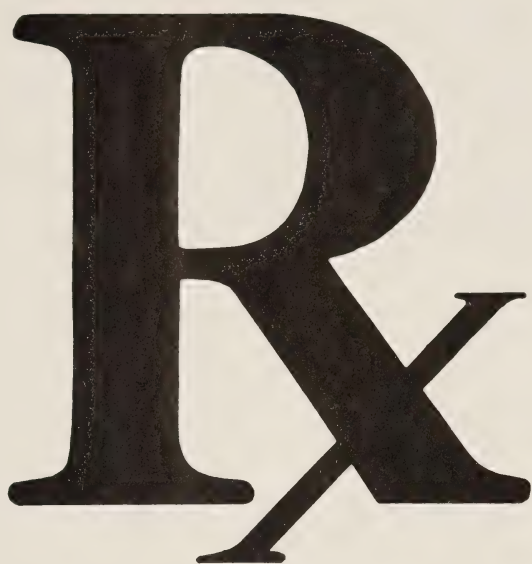
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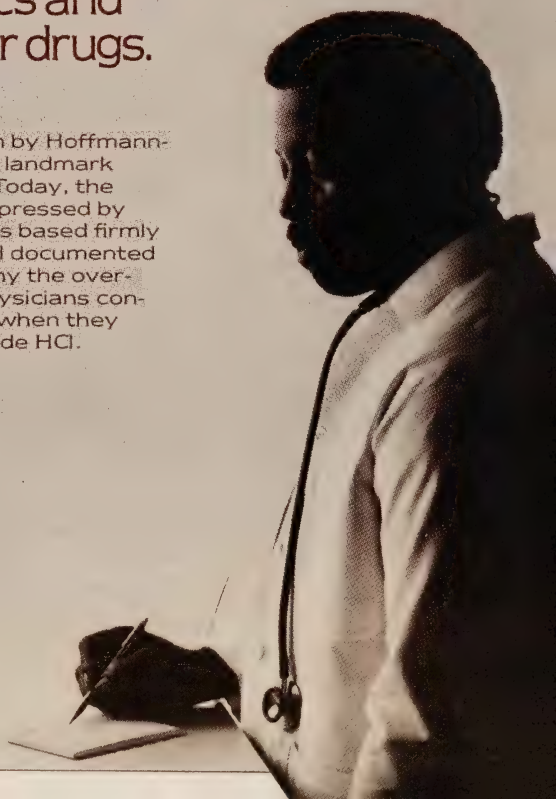
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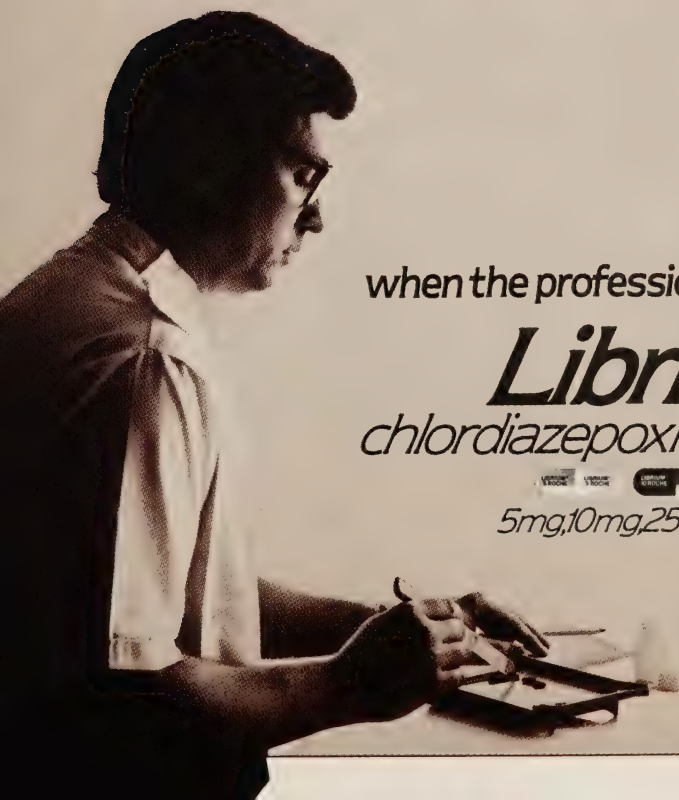




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**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

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## Flying Pharmacists

A new organization, The Flying Pharmacists of America, was recently formed to enhance communications between pharmacist-pilots and to promote professional services and education through combined pharmacy and flying activities. Membership is open to all registered pharmacists, their spouses, and pharmacy students with an interest in flying and a desire to coordinate this interest with other professional and civic activities. Anyone interested in further information should contact the association at 913 North Main Street, Pleasantville, New Jersey 08232.

The October organizational meeting was the result of over a year's planning and discussions with pharmacist-pilots throughout the United States and was held in conjunction with the annual meeting of the American College of Apothecaries in Scottsdale, Arizona. Upcoming activities include a fly-in at the Western States Pharmacy Conference in Phoenix, Arizona, February 22-24, 1980, and a second annual meeting at the 1980 American College of Apothecaries convention in White Sulphur Springs, West Virginia.

The initial membership is composed of pharmacists from New Jersey, Colorado, Arizona, Oregon, and Missouri; and contacts have been established with a number of state and local flying pharmacist groups in an effort to coordinate activities on a national basis. Many of the members already combine their flying skills and professional interests through business flying, provision of patient and medication transport, and social activities.



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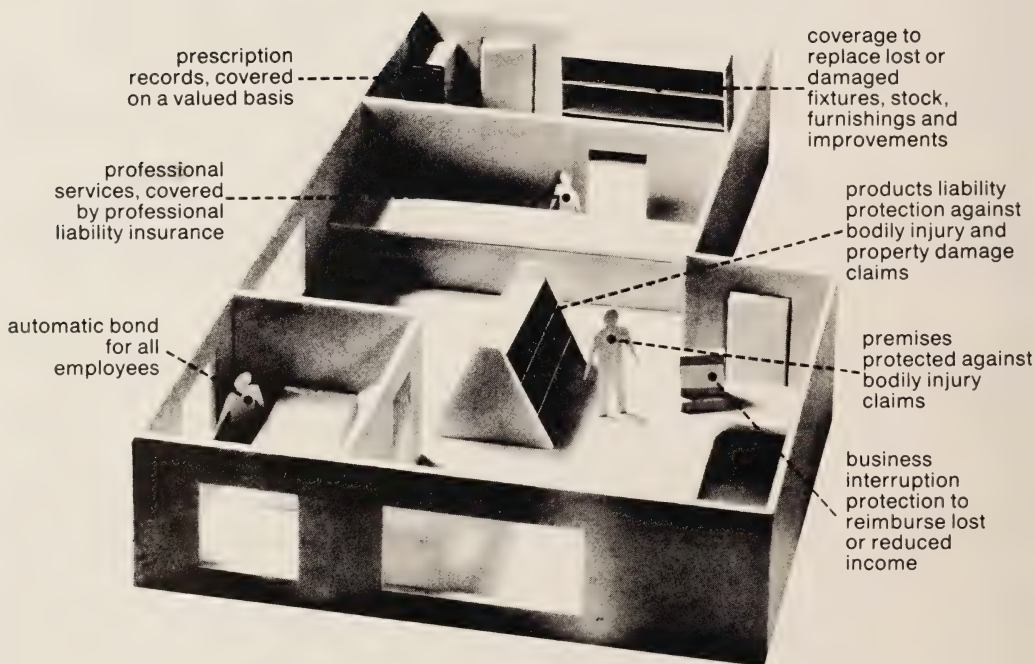
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**THE  
MARYLAND  
PHARMACIST**

Official Journal of  
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FEB. 1980  
VOL. 56  
NO. 2



**Peptic Ulcer Disease**

**Making the USP-DI Work for You**

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**1980 Spring Regional Meeting**

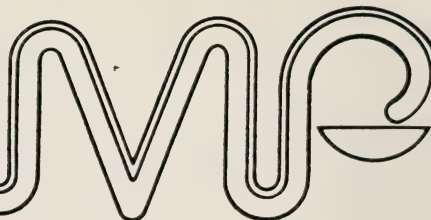
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FEBRUARY, 1980

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The Membership Committee has established March 1st as the cut-off date for renewal of membership. After that date members who have not paid their 1980 dues will be considered delinquent and will be dropped from all Association benefits such as this journal and our valuable newsletter.

I mention this now because I believe the first three months of this year have been especially productive ones for the M.Ph.A. and I would like for every member to spread the good news to non-members.

The list is not complete, but a few examples are:

- Progress in the state legislature to repeal the price poster law.
- Changing the Medicaid regulations taking the physician's signature off of the nursing home claim form.
- Changing the Medicaid re-authorization limits from \$20.00 to \$40.00.
- Continued progress toward a substantial Medicaid fee increase.
- Increasing growth of the BC/BS Health Insurance program, one of our best fringe benefits.
- Finalization of the Convention in Ocean City; it will be a real crowd-pleaser this year.

Pharmacists who are not members should find out what they are missing.

Congratulations to Marvin Friedman, Chairman of the Association's Third Party Committee on the occasion of his installation as President of the Baltimore Metropolitan Pharmaceutical Association. The Banquet on February 10th was one of the largest and best we have seen.

Be sure to attend the Spring Regional Meeting on Thursday, March 27, 1980. The program on Security in the Pharmacy should be valuable to every member.

  
RONALD LUBMAN

# Peptic Ulcer Disease

## What is a peptic ulcer?

It is a hole in the lining of the parts of the digestive tract bathed by the juice secreted by the stomach. This juice contains acid and pepsin which act together to help digest the protein of food. When peptic ulcers occur in the stomach, they are called gastric ulcers; when they occur in the part of the intestine into which the stomach empties, the duodenum, they are called duodenal ulcers.

## How common are peptic ulcers?

The chance of having a peptic ulcer during your lifetime is about one in twenty. Duodenal ulcers are about four times more common than gastric ulcers. In the U.S. about 300,000 new cases of peptic ulcer are diagnosed each year and about 350,000 patients are hospitalized each year for treatment of peptic ulcer and its complications. Hospitalizations for duodenal ulcer have been decreasing steadily during the past decade but hospitalizations for gastric ulcer have not changed. The cause of the decline in duodenal ulcer has not been identified.

## Who gets ulcers?

Ulcers used to be four or five times more common in men than in women but the ratio of men to women with ulcer has been steadily decreasing and is now about two to one. The cause of this change in sex ratio is not known. Ulcers may occur at any age but they are rare before age 15 and they reach a peak of incidence at about age 40 for duodenal ulcer and about age 50 for gastric ulcer. The age of patients hospitalized for ulcer has been steadily increasing and now about one-third of those with duodenal ulcer and about one-half of those with gastric ulcer are over 60.

There are no striking differences in the incidence of ulcers in various socioeconomic classes or in different occupations. The popular notion that hard driving executives are more likely to develop ulcers is a bit of folklore that was not borne out by studies that looked for such a relationship.

## What causes ulcers?

An ulcer occurs when the load of potentially damaging acid-pepsin exceeds the ability of the lining to resist injury.

An increase in acid-pepsin, a decrease in ability to resist damage, or a combination of these two factors can lead to ulcer. Although some patients with duodenal ulcer secrete more than normal amounts of acid-pepsin, the majority of patients with both duodenal and gastric ulcers have normal levels of acid-pepsin secretion. This suggests decreased defense is a factor in many instances.

Peptic ulcer is not a single disease. It is a mixed group of disorders that share the common feature of a hole in the lining of the stomach or duodenum. A variety of genetic and environmental factors contribute. Some of these have been identified but most have not.

## Environmental factors

The two environmental factors that have been clearly linked to ulcer are cigarette smoking and use of aspirin. Persons who smoke cigarettes are twice as likely as nonsmokers to get an ulcer. Deaths from ulcer are more common among smokers. Ulcers heal more slowly in smokers. The incidence of both gastric and duodenal ulcers is increased in smokers. Persons who use aspirin regularly over long periods, such as patients with arthritis, have an increased incidence of gastric ulcer. It is not known whether the many new aspirin-like drugs which have recently come into use carry less risk of producing gastric ulcer. Contrary to popular opinion, ulcers are not more common among alcohol users than among abstainers. Although there is much folklore about diet and ulcers, there is no convincing evidence that certain diets cause ulcers or that certain diets help ulcers to heal or to stay healed. Many popular sayings, such as "you'll get an ulcer from worrying," allude to the notion that psychological stress can cause ulcers. However, the scientific evidence in support of this notion is equivocal at best and new studies in this area are needed.

## Genetic factors

You can inherit a susceptibility to ulcer. Your risk of getting an ulcer is increased threefold if you have a parent or sibling with ulcer. If that relative has a duodenal ulcer, the likelihood of your getting a duodenal ulcer is increased; if the relative has a gastric ulcer, the likelihood of your getting a gastric ulcer is increased. Genetic traits are things such as brown eyes which are passed from generation to generation in a family. Some of the genetic traits that predispose to duodenal ulcer have been identified but no genetic markers for gastric ulcer have yet been found.



One such genetic marker is increased concentration of pepsinogen (the precursor of pepsin) in the blood. Persons with this trait have about an eightfold increase in risk of getting duodenal ulcer. About half of all patients with duodenal ulcer have this genetic trait. About half the brothers and sisters of those with the trait also have the trait and thus have an increased chance of getting duodenal ulcer. Duodenal ulcer patients who have normal blood pepsinogen levels also have increased incidence of duodenal ulcer in their close relatives. We have not yet identified the genetic marker or markers in those with normal pepsinogen levels but such markers can be assumed to be present and the search for them is providing a fruitful area of research. Several genetic traits, for example blood group I, carry only a small increase in risk of duodenal ulcer.

A rare cause of ulcer is gastrinoma, a tumor which produces excessive amounts of the hormone gastrin which stimulates acid-pepsin secretion. About a third of the patients with these tumors have them as part of a genetically determined disease in which tumors of various endocrine glands occur.

### Symptoms

The main symptom of ulcer is pain, often described as burning, in the upper part of the abdomen. The pain tends to occur a few hours after eating and during the night after falling asleep. Most patients report that eating food or taking antacids relieves the pain. Typically, the pain occurs daily for weeks or months and then is absent for weeks or months. Unfortunately, the pain of ulcer is not sufficiently characteristic to be diagnostic. Some patients with ulcer may have little or no pain. Pain like that which patients with ulcer have may also occur in other diseases. Most patients with chronic upper abdominal pain do not have peptic ulcer or indeed any other organic disease.

### Diagnosis

Ulcers can be demonstrated by x-ray pictures of the stomach and duodenum. These are taken after the patient has swallowed a suspension of barium sulfate which casts a dense shadow because it is not readily penetrated by the x-rays. A little puddle of barium collects in the ulcer crater and is identified on the x-ray film as an outpouching of the outline of the stomach or duodenum. If the symptoms suggest ulcer but none is found by x-ray examination, the physician may decide to look at the interior of the stomach and duodenum through an endoscope.

This is a flexible tube which is introduced through the mouth. The endoscope has two bundles of glass fibers, one to carry light into the stomach, the other for viewing the lighted area. In patients with an ulcer, x-ray examinations fail to show the ulcer in 10 to 20 percent whereas endoscopy fails in less than five percent. About five percent of gastric ulcers which appear to be benign by both x-ray and endoscopy later turn out to be cancers. Samples of tissue from the edges of the ulcer can be taken through the endoscope and examined under the microscope to uncover these occult cancers. Duodenal ulcers are almost never cancerous.

### Treatment

The only reliable method of determining whether a treatment speeds the healing of ulcer is by controlled clinical trials in which patients are randomly assigned to an active treatment group or to a group receiving a placebo, an inert substance that looks and tastes like the active drug. Such trials have shown that two forms of treatment are effective in speeding the healing of duodenal ulcers. One is the use of one ounce of a high potency liquid antacid containing aluminum and magnesium 7 times a day, 1 and 3 hours after meals and at bedtime. About a third of patients taking these doses of antacids have diarrhea which can be controlled by substituting an antacid containing only aluminum for some of the doses.

The other effective treatment is cimetidine (Tagamet), a drug which greatly reduces secretion of acid by blocking the action of histamine on the acid-secreting cells of the stomach. The standard dose of cimetidine is one 300 milligram tablet with each meal and at bedtime. Such programs of treatment with either antacids or cimetidine will heal about 70 to 80 percent of duodenal ulcers by the end of four weeks. Once the ulcer has healed, giving cimetidine once or twice a day decreases the chances an ulcer will recur, but such protection lasts only as long as the drug is continued. However, the use of cimetidine for long term maintenance to prevent recurrence has not yet been approved by the Food and Drug Administration. In gastric ulcer, some trials show antacids and cimetidine to be effective in speeding healing but other trials fail to show such benefit. Further trials are needed for a definitive answer. Most patients have no detectable side effects from taking cimetidine. A few have developed swelling of the breasts, mental confusion, allergic reactions, or depression of the blood-forming cells of the bone marrow. One study found a decrease in sperm count in men taking cimetidine.

Stopping cigarette smoking is probably helpful in healing ulcers. Alcohol and caffeine containing beverages are often restricted in patients with ulcer but there are no studies showing that such a practice is beneficial. Patients with ulcer should eat a normal balanced diet. Frequent feedings, and particularly a snack at bedtime, are not advisable because food always stimulates more acid than it neutralizes.



## Surgical treatment

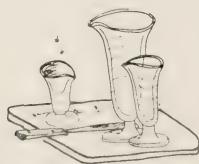
If the symptoms are prolonged and severe and respond inadequately to medical management, or if a complication is present, surgical treatment may be advisable, the various operations currently in use involve either cutting the stimulatory nerve to the stomach, the vagus (vagotomy), or removing the antrum, the part of the stomach which produces the hormone gastrin which stimulates gastric acid secretion (antrectomy), or both. Vagotomy plus antrectomy gives the lowest ulcer recurrence rate but this operation causes incapacitating side effects in five to 10 percent of patients. The newest operation, proximal gastric vagotomy, cutting only those parts of the vagus that go to the acid secreting part of the stomach, has a much lower incidence of side effects but a significantly higher incidence of ulcer recurrence. Since recurrences can be dealt with more effectively than incapacitating side effects, some advocate that antrectomy be reserved as a secondary operation in case of recurrence.

## Complications

An ulcer may extend deeper than the lining and go through the entire thickness of the stomach or duodenum, a condition called perforation. Gastric juices then leak into the abdominal cavity. The extreme pain associated with such an event insures that the patient will seek medical help promptly. The standard treatment is sewing the hole closed at an emergency operation. Another complication occurs when the ulcer burrows into an artery and causes brisk hemorrhage which announces itself by blood being vomited or passed in the stool. Such bleeds usually subside under medical treatment but emergency surgery is sometimes needed. Finally, scarring and swelling around the ulcer may make the outlet of the stomach so narrow that emptying of food is impaired and the patient feels bloated and often vomits after eating. This too usually subsides under medical treatment but occasionally requires surgery. Bleeding occurs in about 20 percent of patients with ulcer, perforation in about five percent, and obstruction in about two percent.

## Social and economic costs

In the United States, each year about 30 million persons-days of time are lost from work and other activities because of ulcer disease. The costs of hospitalizations, medicines, doctors' fees, and time lost from work are more than three billion dollars per year. Pursuing presently-available research leads about the cause and treatment of ulcer disease could reduce considerably these human and economic tolls.



## LETTERS



### Letters to the Editor:

Every five years the Pharmacists of Maryland publically submit themselves to a demoralizing act which violates their professional rights, liberties, and freedoms, and points out their organizational impotence. They meekly purchase two reference books which the State attaches by law to their Pharmacy Permit. No. book, no license! I do not object to the reference books ie. U.S.P., N.F., but I vigorously object to the government telling me that I cannot operate a pharmacy in Maryland without purchasing two specific reference books. I am able to decide for myself which books serve my practice without the government shoving the U.S.P. and N.F. down my throat. There are many other reference books and textbooks that are unquestionably more useful to a community pharmacist than the U.S.P. and N.F., yet we remain captive and burdened with a mandate that no other licensed professional must bear. The two reference books and the law that requires their possession for licensure stand as contemptible symbols of the government's institutionalized arrogance. It further illustrates our own individual and organizational passivity to a long list of inequities and absurdities that inflict us under color of law. The profession's organized efforts to confront the bureaucratic machinery is a paper tiger, virtually useless either by design or more likely, lack of conviction. Pharmacists who are absolutely scrupulous concerning the management of their pharmacies continue to blindly give financial support to their professional organizations whether they deserve it or not. Businesses fail when they no longer provide a service or commodity desired by the public, on the other hand, our professional organizations seem to exist in spite of the fact that their records dealing with professional and economic matters is unremarkable. Hopefully a new era of professional recognition will emerge from the flames of indignation and the ashes of resolution fueled by 800 burning U.S.P. and N.F.'s. The line begins behind me.

*M Neal Jacobs*

M. Neal Jacobs, R.Ph.  
Belair Professional Pharmacy

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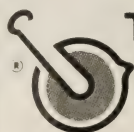


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# ABSTRACTS

Excerpted from PHARMACEUTICAL TRENDS, published by the  
St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor  
and Leonard L. Naeger, Ph.D., Associate Editor.

## FUROSEMIDE-PROPRANOLOL INTERACTION

Propranolol (Inderal) was administered orally and plasma levels of the agent were monitored over a 300 minute period. Then the dose of propranolol was repeated but in addition the volunteers were given 25 mg. of furosemide (Lasix). This time the plasma curve of propranolol was found to be significantly higher than it was in the previous experiment. Clinical data support the presence of a more intense beta-adrenergic blockade produced by propranolol in the presence of the diuretic. *CLIN PHARM*, Vol. 26, #4, p. 433, 1979.

## COLD SORES:

Everything from antiviral agents to ether has been used to reduce the severity of cold sores. A new treatment has been recommended by a group of British physicians. Studies indicate that sodium borate solutions may be of value in this condition. In-vitro work suggests that the salt solution does inhibit viral replication and limited clinical experience indicates that the topical use of this salt solution may be effective against the herpes virus. *BR MED J*, Vol. 2, #6192, p. 704, 1979.

## REHYDRATION:

Studies have been done in underdeveloped countries to determine the effect of rehydration on children with severe diarrhea. Certain villages are supplied with an oral glucose electrolyte solution, and volunteers were instructed as to its use. The use of this solution significantly reduced the mortality rate produced by dehydration and diarrhea. *LANCET*, Vol. II, #8147, p. 809, 1979.

## ISOSORBIDE DINITRATE:

Isosorbide dinitrate has been used in the treatment of angina for years, but its value has often been questioned. Recent double-blind studies indicate that using high doses of the drug orally may be beneficial in some patients, but the dose most commonly required is between 20 mg. and 50 mg. At this dosage level, exercise tolerance increases for a three-hour period. One is advised to taper the dose of the nitrates rather than to discontinue them abruptly. Headaches also are common side effects early in therapy but tend to disappear after a few days. *MED LETTER*, Vol. 21, #21, p. 88, 1979.

## ANTIHISTAMINES:

Antihistamines produce central nervous system depression as a side effect, but little has been done to study the mechanism of the effect. Research conducted in France suggests that antihistamines produce drowsiness and sedation by blocking the histamine-1 receptor sites in the central nervous system. The role of histamine in the brain is not completely clear, but it appears as if it may play a part in keeping the brain "alert". *J PHARM PHA*, Vol. 31, #10, p. 701, 1979.

## MEASLES:

Since 1965, the incidence of measles has dropped in proportion to the amount of money spent to educate people about the disease. The educational process is apparently short-lived. *J AM MED A*, Vol. 242, #11, p. 1157, 1979.

## BROMOCRIPTINE:

Patients who require periodic hemodialysis often experience an impairment in sexual function. Plasma concentrations of prolactin are said to be higher than normal in dialysis patients and since decreased libido and sexual dysfunction are associated with elevated prolactin concentrations, bromocriptine was selected for trial in these patients. Bromocriptine is a semi-synthetic ergot alkaloid which is devoid of the ergot activity, but which has a dopaminergic-like activity and can reduce the concentration of circulating prolactin. Patients given 2.5 mg. of bromocriptine twice daily experienced a return of normal sexual activity. *LANCET*, Vol. II, #8141, p. 496, 1979.

## ESTROGENIC SUBSTANCES:

Post-menopausal estrogen replacement therapy has been promoted and discouraged since it first became available in the 1940's. The estrogens seem not to be effective in preventing atherosclerosis if treatment is initiated after the start of menopause, and works only to a small extent in preventing osteoporosis. If estrogen is used, bone deterioration may be prevented, but an increase in bone density is not realized. The drugs do not alter the psychological changes sometimes associated with the change in life, nor do they reduce the rate of the aging process. They may be of value in eliminating symptoms of vasomotor instability and seem quite effective in preventing atrophic urogenital



changes. When given in low doses, the advantages can be realized with a reduced risk of endometrial cancer. Informed consent should be obtained from all patients before initiating estrogen therapy and it should be pointed out to the patient that the symptoms of the menopause are not life-threatening, but the treatment does carry with it some serious risk. *N ENG J MED*, Vol. 64, #4, p. 1011, 1979.

#### PHYSICAL TRAINING:

Individuals who have undergone extensive physical training (e.g. long distance runners) have been found to be very sensitive to the effects of insulin while at rest, but somewhat resistant to its activity during acute exercise periods. Studies involving monocytes show that insulin binding is increased while the athlete is at rest, but falls significantly during exercise periods. It seems that there is a shift from carbohydrate to fat utilization during exercise which is particularly evident in the trained athlete. *J CLIN INV*, Vol. 64, #4, p. 1011, 1979.

#### MEFLOQUINE:

Mefloquine is an antimalarial which has a very long half-life. It has been shown to be effective against the more resistant forms of malarial parasites. The drug has produced some problems associated with treatment failures, but results from a recent investigation indicate that a wide variation exists in the half-life of the drug in a patient population. Thus it is thought that these treatment failures are actually due to insufficient dosage and that increasing the dose may produce a cure. *CLIN PHARM*, Vol. 26, #3, p. 372, 1979.

#### THEOPHYLLINE:

Theophyllin has been studied most extensively during the past decade and its use is increasing. Occasionally a patient will become toxic while taking the drug and efforts have been made to discover useful antidotal procedures. Patients with signs of theophylline toxicity were subjected to hemoperfusion and the drug was found to be removed satisfactorily from the body by this procedure. *CLIN PHARMA*, Vol. 4, #4, p. 320, 1979.

#### SOTALOL:

Sotalol is a beta-adrenergic blocking agent which has been used in the treatment of hypertension and other cardiovascular diseases. It has been shown to be effective in treating patients with essential hypertension when given in a single daily dose. Additionally, the drug causes a drop in plasma cholesterol. Sotalol has been found to be a suitable substitute for methyldopa in patients who cannot tolerate the latter agent. *J CLIN PHAR*, Vol. 19, #9, p. 495, 1979.

#### MOPEDS:

Mopeds, the low powered bicycles that are driven by one-half million people, have become a problem for many emergency room physicians. The vehicle can attain a speed of 30 mph, but is small and often is not seen by drivers of larger vehicles. In order to help reduce the incidence of such accidents, riders of Mopeds are urged to wear bright colored clothing and to use extreme caution when operating

the vehicle in a congested area. Many of the accidents are due to error on the part of the rider. *J AM MED A*, Vol. 242, #14, p. 1457, 1979.

#### ANTICONSULSANTS:

Phenytoin and phenobarbital are capable of inducing hepatic microsomal metabolism. Some scientists have suggested that the increase in folic acid metabolism is associated with the mechanism of action of phenytoin (Dilantin). A study was set up to determine if folic acid excretion and metabolism is altered by the anticonvulsant. This study showed that phenytoin will increase the rate of metabolism when phenobarbital was introduced into the system in its place. Therefore, it seems as if either folic acid depletion is not associated with the anticonvulsant effect of phenytoin or that phenobarbital and phenytoin do not have identical pharmacological mechanisms of action as once thought. *J CLIN INV*, Vol. 64, #4, p. 1089, 1979.

#### HYDROCHLOROTHIAZIDE:

The diuretic hydrochlorothiazide has been used alone and in combination with other agents to treat hypertension. The drug decreases blood pressure without altering the concentration of catecholamines in the plasma, even though these are often elevated in the hypertensive patient. Using an anti-adrenergic agent along with the diuretic seems to be a good and logical way to potentiate its antihypertensive effects. *CLIN PHARM*, Vol. 26, #3, p. 428, 1979.

#### CLOFIBRATE-WARFARIN INTERACTION:

Clofibrate and warfarin have been found to interact to potentiate the anticoagulant. Pharmacokinetic studies have shown that the reaction occurs when the clofibrate displaces warfarin from the binding sites on plasma protein. *J PHARM EXP*, Vol. 210, #3, p. 316, 1979.

#### MERCURY VAPOR LAMPS:

The FDA has warned that mercury vapor lamps may present a hazard to people close to them when the lamps rupture. The problem seems to exist when the outer tube of the lamp breaks but the inner light, which contains the mercury vapor, continues to operate. When this occurs, people standing within nine meters may experience eye injury or burns. The likelihood of such an accident seems remote, but in the recent months about 500 such cases have been reported to authorities. *J AM MED A*, Vol. 242, #17, p. 1837, 1979.

#### BETA-ADRENERGIC BLOCKING AGENTS:

Beta-adrenergic blocking agents have been administered along with the thiazide diuretics in the treatment of hypertension. The blocking agents were noted to help offset the potassium depletion produced by the diuretics, but they were also found to increase the concentration of uric acid in the plasma, especially in women. *CLIN PHARM*, Vol. 26, #3, p. 339, 1979.

## DRUG-INDUCED PANCYTOPENIA:

Some drugs have the ability to directly or indirectly destroy bone marrow and create a fatal pancytopenia. An in-vitro method has been developed which can be used to determine if a patient's marrow will be adversely affected by specific drug entities. Initial work has been done using quinidine as the agent in question, but the authors are confident that this technique will be useful with other pharmacological agents and will allow the clinician to test a patient's susceptibility to drug-induced pancytopenia in-vitro. *N ENG J MED*, Vol. 301, #12, p. 621, 1979.

### MK-447:

A new diuretic-antihypertensive agent has been found which is capable of acting as an antihypertensive agent in doses below those required to produce natriuresis. It has been postulated that the drug acts by inhibiting 9-keto-reductase, an enzyme which is responsible for converting a prostaglandin with vasodilating activities into one with vasoconstrictive properties. *DRUG META D*, Vol. 7, #5, p. 330, 1979.

### ACETAMINOPHEN:

Acetaminophen is an inhibitor of prostaglandin synthesis in the renal inner medulla. It seems that acetaminophen is capable of inhibiting cyclooxygenase in a reversible manner, and thus differs from aspirin in that the salicylate acts irreversibly on the enzyme. *J PHARM EXP*, Vol. 210, #3, p. 405, 1979.

### ANTIDIARRHEALS:

Several commonly used antidiarrheal agents were used in animals to determine if the narcotic-like central nervous system stimulation noted during therapy needed to be present in order to experience the constipating effects produced by the drugs. Loperimide, diphenoxylate, codeine and morphine all produced excellent antidiarrheal effects, but investigators felt that these animal studies show loperimide to produce fewer opiate-like effects and to have the greatest margin of safety. *J PHARM EXP*, Vol. 210, #3, p. 327, 1979.

### CHIROPRACTIC-RECOGNIZED BUT UNPROVEN:

Medical practitioners have been forced through legislation to recognize the study of chiropractic. The American Medical Association states that it no longer regards the chiropractors as "an unscientific cult". Medical physicians have challenged the chiropractic practitioners to submit and prove their treatments in the same manner as is expected from other medical groups. The challenge has been issued, the results remain to be seen. *N ENG J MED*, Vol. 301, #12, p. 659, 1979.

### BETHANDINE:

Bethanidine is a guanidine derivative used to treat hypertension. It exerts its pharmacological activity by depleting catecholamines from their nerve endings in the post-ganglionic sympathetic neuron. Its action begins in about two hours and lasts approximately 8 to 12 hours. The drug is excreted primarily in the urine and thus patients with renal impairment may experience an increase in the effect and toxicity of the drug. *J CLIN PHAR*, Vol. 19, #8, p. 428, 1979.



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The Health Science Library (HSL) of the University of Maryland at Baltimore covers all areas of medicine, dentistry, pharmacy, nursing, allied health, and social work. HSL is open to all pharmacy professionals in the state and can offer you a variety of services.

Reference service is available from 8 a.m. to 5 p.m. Monday-Friday and 9 a.m. to 5 p.m. on Saturday. The reference collection contains numerous drug handbooks, US and foreign pharmacopoeias, textbooks, dictionaries, directories, and indexes to the pharmacy literature. You can call 528-7996 for reference service.

The MEDLINE Office will, for a nominal fee, provide you with computer-produced bibliographies tailored to your specific information needs. HSL has access to over 30 data bases covering the subjects of chemistry, medicine, pharmacy, biology, business, and health care delivery, including International Pharmaceutical Abstracts, Medline, Toxline, Chemical Abstracts, and Pharmaceutical News Index. Call 528-7373 for further information.

The Historical Book Room contains fine collections in medicine, pharmacy, dentistry and nursing. For more information, call 528-7029, Monday-Friday, 9 a.m. to 5 p.m.

The Health Sciences Library subscribes to over 3200 periodicals. These include many journals of interest to the practicing pharmacist, for example, Contemporary Pharmacy Practice, NARD Journal, Hospital Pharmacy, American Druggist, and many more. Although these journals do not circulate, they are available for in-house use or for photocopying at 5¢ per page.

The library is open to all professionals upon presentation of professional identification, such as a MPhA membership. Members of the School of Pharmacy Alumni Association are eligible for special borrowing privileges. For more information on the alumni association, call the School of Pharmacy.

HSL is located at 111 South Greene in Baltimore (across from the Allied Health Professional Building) and is open from 8 a.m. to 10 p.m. Monday-Friday, 9 a.m. to 5 p.m. Saturday, and 2 p.m. to 9 p.m. Sunday. There are special holiday and summer hours. If you would like any additional information please call Betty Nies at 528-7373.



**Roche has been creating innovative programs for years.**

Pharmacist Antibiotic Therapy Test

RETRIEVE...  
A Security System and Data Bank

Roche Pharmacy Guaranty of Indemnity Protection

Roche Return Goods Policy

The Roche Directory of Pharmacy Services and Programs

Roche Medical Emergency Line

To Good Pharmacy Management

Advertising

Roche Reference Service for Pharmacists  
TOPICS OF CONTEMPORARY INTEREST  
MADE AVAILABLE THROUGH YOUR  
ROCHE REPRESENTATIVE

Roche Return Goods Policy

Speaker Reference Service

(Check the reverse side of this page.)



# At last count Roche Laboratories offered more than 28 pharmacy programs...and the list is growing. Here is just a sampling:

---

## **Liberal Return Goods Policy—**

Gives any pharmacy credit for outdated or discontinued items whether full or partially used, for unopened items currently in the product line, and for items which appear old, deteriorated or otherwise unsalable.

---

## **Product Liability Guarantee—**

Roche guarantees product liability protection when a product liability lawsuit or claim involving a Roche product arises under the conditions stipulated, provided the pharmacist has lawfully and properly executed his professional responsibilities.

---

## **Convenient Packaging—**

Packaging has been designed to minimize space requirements; major Roche products are available in Prescription Paks.

---

## **Disaster Policy—**

In the event of a disaster, Roche will assist a retail pharmacy, wholesale house or hospital pharmacy by restocking all Roche merchandise which is no longer salable.

---

## **Roche Reference Service for Pharmacists—**

23 categories on contemporary issues relevant to pharmacists, such as biopharmaceutics, IV additives and therapeutic equivalency; available in folder format.

---

## **Postgraduate Pharmacy Education (PGPE)—**

Provides honoraria for guest speakers and sponsors seminars for pharmacists' continuing education.

---

## **Roche Medical Emergency Line (201-235-2355)—**

24-hour service answers emergency questions you may have about any Roche product.

---

## **Drug Abuse Warm Line—**

Taped discussions with experts on the subject of drug abuse are available by telephone.

---

## **Continuing Medical and Pharmacy Education Programs (NCME)—**

Videotape and film programs plus other materials available for meetings.

---

## **Pharmacist Antibiotic Therapy Test (PATT)—**

A self-assessment learning program on film and videotape.

---

## **Depressive Disorders Therapy Test—**

A television self-assessment program based on simulated case situations; current concepts in the psychotherapeutics of depressive disorders are reviewed.

---

## **Retrieve Roche Product Information—**

Computerized library of over 50,000 published papers on Roche products; bibliographies and reprints are available through the Roche Representative.

---

## **Speaker Reference Service—**

Supplies, reprints or other pertinent information for preparation of speeches for presentation to professional groups.

---

## **National Pharmaceutical Council (NPC) Summer Internships—**

Selects pharmacy students to work at Roche where they are exposed to the day-to-day operations of a pharmaceutical company. This program is designed to broaden the student's awareness of the industry's role in health care.

---

**For more information write to Roche or contact your Roche Representative.**



ROCHE LABORATORIES  
Division of Hoffmann-La Roche Inc.  
Nutley, New Jersey 07110



Mattie Fienberg, project coordinator for the Elder Ed program, addressed the BVD's. The program teams retired pharmacists with pharmacy students in a unique educational program for senior citizens.



The Annual Christmas party of the Baltimore Veteran Druggists held December 19, 1979 was a time to renew old friendships.

## BVD's and BMDPA Meet

Pictures courtesy of  
Paramount Photo Service



The Baltimore Metropolitan Pharmaceutical Association met November 13, 1979 to elect and install new officers and directors. Charles Spigelmire presided over the ceremonies.



Jerry Niport, Director of Medical Assistance Operations Administration, provided an interesting address on the future and direction of the Medicaid program.

# Health Care Special Weeks and Months

*National Observances have become a tradition in the United States. Many of these are associated with health care and can be adapted to your community health education efforts.*

*The following list briefly describes some of the more common weeks and months associated with health education and disease prevention. This compilation is not presented as a total catalogue of annual events of special interest to health care professionals. It is designed to assist you as a health educator to take an active part in such health-related events.*

## **FEBRUARY ..... Entire Month American Heart Month**

Each year since 1964 Presidential proclamation has designated February as the month to emphasize health activities relating to the heart.

**For information:** Contact your local chapter of the American Heart Association.

## **FEBRUARY ..... Second Week National Children's Dental Health Week**

Founded by the American Dental Association to promote the prevention of dental disease through education.

**For information:** Bureau of Dental Health Education, 211 E. Chicago Ave., Chicago, IL 60611.

## **MARCH ..... Entire Month Shamrocks Against Dystrophy**

A special drive to enlist high school and college youth's support for programs of research and patient care for victims of neuromuscular diseases.

**For information:** Muscular Dystrophy Association, Inc., 810 7th Ave., New York, NY 10019.

## **MARCH ..... Third Week National Poison Prevention Week**

By annual Presidential proclamation this week encourages Americans to learn the dangers of accidental poisoning and to take prevention measures.

**For information:** National Planning Council for Poison Prevention

Week, P.O. Box 1543, Washington, D.C., 20013.

## **MARCH ..... Third Week Community Health Week**

Proclaimed annually since 1944 by the California State Legislature as a week for special programs, projects and events related to community health.

**For information:** Contact Ruth Temple, M.D., 601 South Orange Grove Ave., Pasadena, CA 91105.

## **APRIL Cancer Control Month World Health Day**

By Presidential proclamation April is especially designated to educate Americans about the causes and controls of cancer. During April the American Cancer Society intensifies its year-round education program and launches a fund-raising campaign to conquer cancer.

**For information:** Contact your area chapter of the American Cancer Society.

## **APRIL 7 World Health Day**

Commemorates the establishment of the World Health Organization on April 7, 1948. Each year a featured theme is selected to help promote good health on an international level.

**For information:** Public Information Office, World Health Organization, 525 23rd Street, N.W., Washington, D.C., 20037.

## **MAY 12 International Nurses Day**

**For information:** International Council of Nurses, Box 42, CH1211 Geneva 20, Switzerland.

## **MAY ..... Second Week National Hospital Week**

Founded to focus attention on hospital's contributions to the good health of their communities, this week helps to inform the public about the growing challenges and responsibilities faced by health care institutions.

**For information:** Contact the American Hospital Association, 840 N. Lake Shore Drive, Chicago, IL 60611.

## **MAY ..... Second Week National Nursing Home Week**

The purpose of this week is to increase community awareness of the services offered by long term health care facilities.

**For information:** Contact the American Health Care Association, Dept. of Public Affairs, 1200 15th St., N.W., Washington, D.C. 20005.

## **AUGUST**

### **Good Nutrition Month**

This was established to make Americans conscious of the variety of foods available in the U.S. and the ways to use them wisely and well.

**For information:** Contact the Gourmet Club, 3369 Hamilton Way, Los Angeles, CA 90026.



## OCTOBER

### Immunization Action Month

This special month stemmed from the finding that immunization levels in young children were declining. It was established to increase immunizations against polio, measles, mumps, diphtheria, pertussis and tetanus.

**For information:** Contact the Center for Disease Control, Immunization Division B. S.S., Atlanta, GA 30333.

## OCTOBER ..... First Monday

### Child Health Day

Declared by Presidential proclamation, this day stresses the need for ongoing attention to child health care. Occurring in October, the observance of Child Health Day has become closely allied with Immunization Action Month in recent years.

**For information:** American Academy of Pediatrics, P.O. Box 1034, Evanston, IL 60204.

## OCTOBER ..... Third Week

### Drug Abuse Prevention Week

Held annually by Presidential proclamation, this week serves to alert all segments to the public to the continuing problems of drug abuse.

**For information:** National Institute on Drug Abuse Clearinghouse, 11400 Rockville Pike, Rockville, MD 20852.

## NOVEMBER-DECEMBER

### Christmas Seal Campaign

This is a fund-raising campaign to support the fight against emphysema, tuberculosis, chronic bronchitis, smoking and air pollution in the United States.

**For information:** Contact the Public Relations Director of the American Lung Association, 1740 Broadway, New York, NY 10010.

## NOVEMBER-DECEMBER

### National Diabetes Month

The objectives of this month are threefold — to detect the undiagnosed diabetic, to increase public awareness of the disease and recognition of warning signs, and to raise funds for research towards a cure and prevention.

**For information:** Contact your local Diabetes Association affiliate or the American Diabetes Association, 600 fifth Ave., New York, NY 10020.

## NOVEMBER

### Mental Retardation Month

This month was initiated to draw national attention to the problems and potential of mentally retarded individuals. Each year the campaign is focused around a particular theme.

**For information:** National Association for Retarded Citizens, 2709 Avenue E East, Arlington, TX 76011.

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# Invitation from SCODAE

**PharmAlert** is a publication of the Student Committee on Drug Abuse Education (SCODAE) of the University of Maryland School of Pharmacy. SCODAE is a voluntary organization of pharmacy students who, with faculty support and guidance, are committed to contributing their knowledge and personal talents toward the development of rational attitudes about drugs and their capacity for beneficial and toxic effects. SCODAE strives to accomplish this goal by serving as a source of unbiased information concerning drugs. We believe in presenting relevant data as honestly as possible to assist people in making informed decisions concerning the use of drugs.

SCODAE provides this information in various ways. One channel through which this information is provided is our publication **PharmAlert**. **PharmAlert** serves as a review journal that focuses on all aspects of drugs with a potential for abuse.

We at SCODAE invite you to read **PharmAlert**. We think you will find it interesting, well referenced and, above all, useful.

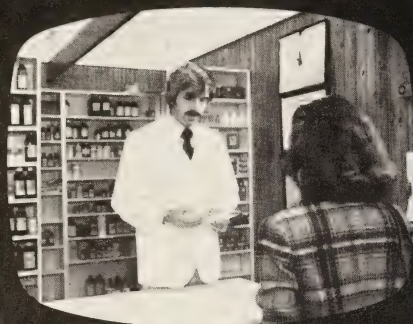
**PharmAlert** is funded by voluntary contributions which are used only for printing and mailing expenses: any donations are sincerely welcome. For subscription/address change write to:

### **PharmAlert**

Student Committee on Drug Abuse Education  
University of Maryland  
636 W. Lombard Street  
Baltimore, Md. 21201

Thank you.

Allen F. Novak  
Editor  
**PharmAlert**



## A Boost for you... A Bonus for your Patrons

A completely new series of TV spot announcements on pharmacy, designed to help the public recognize and utilize your professional services so that they will understand and use medicines more effectively — a boost for *you* and a bonus for *them*!

Developed by Eli Lilly and Company, the series will soon be available for showing on local stations and will continue the impact of those now being televised throughout the country under the sponsorship of state pharmacy associations. For more information, contact your state association office.

No wonder nearly five generations  
of pharmacists have depended on



**Eli Lilly and Company**  
Indianapolis, Indiana 46206



**Dista Products Company**  
Division of Eli Lilly and Company  
Indianapolis, Indiana 46206

900254



LOEWY DRUG CO.

DIVISION OF



# Has For Your PHARMACY A Complete Price Sticker and Order Entry Program.

Now Operating in over 500 Pharmacies Like Yours.

**THE SERVICE PROVIDES:** retail price sticker & shelf labels, allowing you selective pricing for all items you purchase. Plus customized pricing for up to 1500 items. Two price system.

## OVER THE COUNTER MERCHANDISE

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#5681 QTY 2  
334 1.25  
7312-1359

YOUR NAME  
\$1.25  
4MP  
2 032  
7312-1359

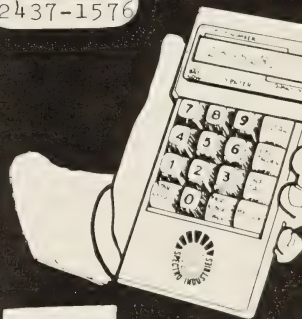
## RX MERCHANDISE

BENTYL TAB 20MG  
100 QTY 1  
NDC 68-0123-61  
2437-1576

NDC 68  
0123-61  
5D70  
1 032  
2437-1576

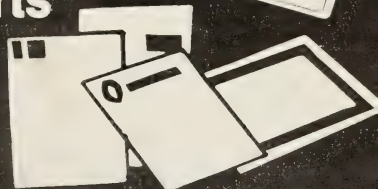
## Electronic Order Entry System

Electronic order entry Terminal for in-store use. It's light-weight, portable and enables you to order 200 line items in less than one minute. Transmits over telephone. Operational 24 hours a day . . . call at your convenience.



## Turnover and Profitability Reports

Customized series of ongoing Turnover and Profitability Reports for Your Store. Helpful information compiled from product movement of items in your store.



## CHECK THE BIG PLUS FEATURES:

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- Complete OTC and RX Pricing Stickers.
- Quarterly Label Color Change.
- Tamper-proof (non-transfer) security.
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- Price Stickers for Selected Full Cases.
- NDC Numbers on All RX Products.
- Customized Pricing.
- Two Price System.

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YES, I'd like to get more FACTS ABOUT SPACE:

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TITLE \_\_\_\_\_

STORE \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_





# Making the USP-DI Work for You

by

**Keith W. Johnson,**

Director, Research and Development,  
Drug Information Division,  
United States Pharmacopeial Convention

The information for a new system of dispensing information is now available with the first edition of *USP Dispensing Information* (USP DI). Although planning for and development of this edition goes back several years, it is only now — with the information in hand — that its applicability to the practice of pharmacy can really be appreciated.

What does USP DI offer the pharmacy practitioner?

First, and most obviously, it offers a sound information base. No other reference specifically addresses those sets of information applicable to that point in time after the decision to prescribe has been made. DI focuses on what should be considered if safe and effective use of a medication is to be expected. Accordingly, the information may be of value to the physician who is prescribing, the pharmacist who is dispensing, counseling, and/or monitoring, the nurse who is administering, and most certainly to the patient who is using the medication.

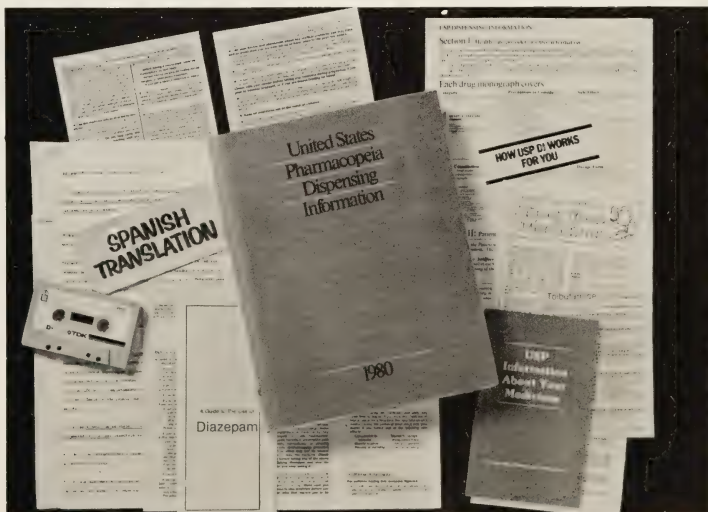
Some of the advantages of the information base itself can be characterized as follows:

- Issues such as conflicting or poorly defined information, or uncertainty about the potential clinical significance of existing and new data are addressed by USPC advisory panels. Value judgments are made, although the information is not intended as a substitute for the professional judgment of the dispenser.
- Unlabeled (commonly known as “not approved”) uses or doses are included where USPC’s consensus system has indicated the appropriateness of such inclusions.

- Patient consultation guidelines are included, and a patient advice section written in lay language provides a useful tool for patient education.
- The information is the consensus of a nationwide system to obtain drug use information that the prescriber can expect the dispenser to consider in monitoring drug use and in counseling the patient. Physicians, pharmacists, and dentists serving on the USP Committee of Revision form the core for the development. This core is supplemented by over 200 experts serving on 22 medical, dental, pharmacy, and nursing advisory panels. The drafted materials are then made available for general review through USP Comment Proof. For the first edition, nearly 500 copies of each issue of CP were distributed for review. Approximately 200 of these went to schools of medicine and pharmacy and to state associations of medicine and pharmacy, where they were often reproduced for wide review within the institution. The bulk of the remainder went to the pharmaceutical industry, various state and federal government agencies, and national associations interested in drug-use information.
- The information is under constant revision. Information on important newly marketed drugs as well as significant changes in the existing DI base is provided by means of bimonthly updates to the annual volume.

Second, and less obviously, DI offers the profession of pharmacy alternative approaches.

The primary component of the USP dispensing information system is the 800-page book, USP DI, which provides information on several thousand drug products from the perspective of the health care provider and the patient. Using the USP DI Advice for the Patient section as a base, the comprehensive USP dispensing information system has been adapted by several communities to include patient-oriented leaflets and booklets, audio cassettes, and translations into Spanish and other languages for non-English speaking groups. A series of weekly columns, focusing on general drug use information as well as specific information on the most widely used drugs, are being provided on a regular basis to some 2,000 newspapers nationwide as a public service.



# THINK "SUN" NOW

It's not too early to plan to attend M.Ph.A.'s Annual Convention — June 15-19, 1980 at the beautiful Carousel Hotel in sunny Ocean City, Maryland. In addition to special programs and social events planned just for this Convention, the Convention Committee is going all-out to make this the best M.Ph.A. Convention ever. Quite a challenge — so come and see how good it can be.

**Special Attraction** is nationally known speaker, pharmacist and humorist, Robert Henry. You won't want to miss Bob's message, guaranteed to make you think while you laugh.

**Mark your calendar** now and watch for additional details on this year's great convention.



Robert Henry

Primarily, it provides a flexible base that, if effectively used, will promote the development of the counseling and monitoring roles of the pharmacist. That is, DI can contribute to the alternative of growth within the profession.

At this time, DI offers an alternative to further federal government involvement. But again, only if it is effectively applied. With the strong push towards mandatory patient package inserts for virtually all drugs, the only effective counter would seem to be the voluntary actions of the professions to provide something superior both in content and in effectiveness. If health care providers effectively develop and apply patient drug-use education programs, a large part of the underlying reason and sense of urgency for FDA's intervention into our professional affairs would dissipate.

USPC has started the ball rolling. If we expect to keep it rolling, we will all have to work together.

How?

**Counsel your patients** — Ideally, oral consultation should be reinforced by written information. Use DI imaginatively. For instance, a group has developed Spanish (leaflets) and Navajo (audio cassettes) translations for use on a trial basis. Other pharmacists have used three varying-length leaflets of DI with their patients. A flexible approach is critical. One cannot expect to use the same level of information for all patients (as FDA proposes) and at the same time expect to maximize positive outcomes. Every patient is different.

Only the practitioner is in a position to understand the individual patient and his or her needs. No single piece of paper, no single set of words, can best serve all patients or all situations. That's why USP is dedicated to providing a system, not just a book.

USPC will encourage the transferral of DI to the patient by making available a variety of patient education tools. These include leaflets as well as consumer-oriented booklets. At the same time, USPC will serve as a focal point for exchange of ideas. *USP DI Update*, the bimonthly newsletter, will serve as the exchange mechanism.

In addition, USPC will attempt to foster general public awareness of the importance of drug-use information. The pharmacist has a responsibility to counsel, but the patient also has responsibilities. The first project along these lines is the provision of material, abstracted from USP DI, to newspapers to run on a public service basis.

**Let people know what you're doing** — Your programs, no matter how good they may be, will not have an effect on governmental considerations if the government does not know about them. Feel free to use *USP DI Update* as your platform.

**Contribute to the continuous revision of USP DI** — DI is your system. Actively work with your state association or state board in reviewing draft DI (via *USP DI Review*). If you disagree with something in DI, let us know. Tell us how to make it better. All comments received will be reviewed and considered in the revision of DI.

USPC has taken the initiative. We are in an ideal position to do so in that we have an established system as well as the expertise available to us that is required to develop and maintain the information base. In addition, the fact that we are biprofessional — medicine and pharmacy — offers obvious advantages in the development of programs that are of concern to both professions.

We will continue to take the initiative. But we have to work together.



# WHEN DID 300 EXPERTS EVER AGREE ON ANYTHING?

Maybe the new USP DI and the established USP-NF have come as close to an agreement as anyone can get.

The information in the comprehensive USP DI, from side effects to patient advice, has evolved through review by over 300 physicians, pharmacists, dentists, and nurses. The new USP DI is the first consensus of its kind.

No other reference comes close to this kind of authority.

But then, no other drug dispensing guide is compiled by the United States Pharmacopeial Convention, the same people who publish the

USP-NF

## STANDARDS OF QUALITY

Sets forth legally enforceable standards for drug strength, quality, purity, packaging, and labeling.

## UNIVERSALLY USED

Assurance that the drug you dispense meets the physician's standards, and yours, because these USP standards are required of all brands.

## COMPREHENSIVE

More than 2,300 USP monographs for active ingredients and dosage forms; more than 200 NF monographs for inactive pharmaceutical ingredients.

## CRITICAL DATA

Information on drug stability, dosage forms, controlled drug regulations, and child-resistant containers. And, excerpts of antibiotic regulations.

## MODERN METHODS

Expanded application of dissolution and pressurized liquid chromatography; thermal automated analysis; limulus test; new standards for prescription and other packaging materials.

*United States Pharmacopeia* and the *National Formulary*, the legally recognized compendia of standards for drug strength and quality.

And the review process continues. The 1980 *USP Dispensing Information* includes a full year of updates, until the 1981 edition is ready.

Now, for the first time, USP XX and NF XV are being published together in one volume, the 1980 USP-NF. You can even order the complete 1980-84 USP-NF supplements with this one handy form.

Order now. There's no easier way to get the information you need when you need it most.

USP DI

## CROSS-INDEXED

Lists drugs by generic *and* brand names, even by category of use.

## UNIQUE CONSULTATION GUIDE

Summarizes dispensing advice in professional and lay language.

## CATEGORIES OF USE

Describes the types of drugs and their general use.

## PRECAUTIONS

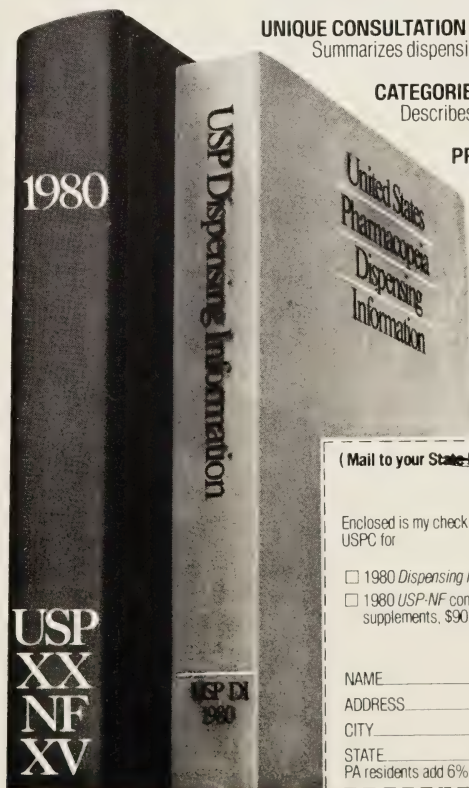
Covers drug interactions, diagnostic interference, medical complications, and much more.

## SIDE EFFECTS

Lists selected side effects, and their clinical significance.

## DOSAGE INFORMATION

Details dosage forms, preparation, strength, packaging, storage, and labeling.



(Mail to your State Pharmacy Association)

Enclosed is my check or money order for \$ \_\_\_\_\_ payable to  
USPC for

- ☐ 1980 *Dispensing Information*, with updates, at \$18.75 each  
☐ 1980 *USP-NF* compendia of drug standards, at \$65 each, with  
supplements, \$90 each

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STATE \_\_\_\_\_ ZIP \_\_\_\_\_  
PA residents add 6% sales tax

# Sales Tax on Medical Equipment, Instruments and Supplies

Retail Sales Tax Division of Comptroller  
of the Treasury (301) 383-3800

## A — Exempt

A 19 Abdominal Supporters  
A 19 Absorbent Cotton  
A 19 Adhesive Tape  
A 19 Airways (Disposable)  
A 19 Antiseptics  
B 19 Alconox  
C 19 Applicators (Wood)  
A 20 Arm Pads  
A 20 Arm Slings  
A 20 Artificial Limbs  
A 19 Axis Traction  
B 19 B. P. Blades  
B 19 Baby Scales  
A 19 Bandages, Gauze and Plaster  
A 20 Bath Bench (Medical)  
A 20 Bath Lift (Medical)  
B 19 Batteries, other than hearing aid  
A 20 Bed Cabinets  
A 19 Bed Canopies, mattress, rail  
A 20 Bed Pans  
A 19 Bed Wetting Alarms  
A 20 Bedside Rails  
C 19 Berman Tubes  
C 19 Blood Bottles (one time use)  
B 19 Bottles, medicine given to patient by doctor  
B 19 Boxes, pill, given to patient by doctor  
A 20 Braces, Arm, Leg, Spinal  
B 19 Breast Pumps  
A 20 Canes for Blind  
C 19 Catheters (Disposable)  
A 19 Cervical Collars  
A 19 Cervical Scrapers  
A 19 Cevitamic Acid  
A 20 Chair — Table (Medical)  
A 19 Chloroform  
B 19 Chlorophenyl  
A 19 Chux  
B 19 Circumcision Shield  
B 19 Clothing, Medical  
A 20 Colostomy — Equipment  
A 20 Colostomy — Supplies  
A 19 Combine Pads  
A 20 Commode Chairs  
A 20 Commodes, Bedside (Medical)  
A 20 Corsets, on doctors prescription  
A 19 Cotton Balls  
A 19 Cotton (Surgical)  
C 19 Cover Glasses  
A 20 Crutches  
B 19 Cystoscopes  
B 19 Deodorant used on patient  
B 19 Diagnostic Equipment  
A 19 Diagnostic Testing Material  
B 19 Dialators  
C 19 Diapers (Disposable)  
B 19 Doctors Bags  
A 19 Drainage Pads  
A 19 Drainage Tubes (Disposable)  
A 19 Drugs and Medicine  
B 19 Dusting Powder (Surgical)

## B — Taxable

C 19 E.K.G. Paper and Jelly  
A 19 Ear Basins  
C 19 Electrode Jelly  
A 19 Emesis Basins  
B 19 Envelopes, Pill — Given to patient by doctor  
A 19 Ethyl Chloride  
B 19 Evacuating Syringe  
A 20 Exercise Bar (Medical)  
B 19 Eye Wash Cups  
B 19 First Aid Kits  
B 19 First Aid Station at Plants and offices, sales to  
A 20 Flotation Pad (Medical)  
B 19 Forceps (All types)  
A 19 Gamophen Soap  
B 19 Gastric Tubes  
A 19 Gauze  
C 19 Gloves, Plastic (Disposable)  
B 19 Gloves, Rubber  
A 20 Grab Bar — Bathtub (Medical)  
B 19 Gravity Tubes  
B 19 Gynecological Instruments  
B 19 Health Garments  
B 19 Heating Neck Collars  
B 19 Heating Pads  
B 19 Holmspray Insufflator  
A 20 Hospital Beds  
A 20 Humidifier (Medical) only  
A 20 Hydro-Hot-Pack (Medical)  
B 19 Hydrocolation Steam Pack  
A 19 Ileostomies  
B 19 Incontinent Pants (Baby)  
B 19 Instruments  
C 19 Kerlix Rolls  
C 19 Kleenex  
A 20 Knee Bracs  
B 19 Lamps, Treatment  
A 19 Lubricating Jelly for Glass Eye  
A 20 Mattresses (Medical only)  
C 19 Medicine Tubes (Disposable)  
B 19 Medicine Tubes (glass)  
C 19 Modess  
A 19 Mucus Trap  
B 19 Murphy Saline Tubes  
A 19 Nasal Tips  
C 19 Needle and Suture (Disposable)  
B 19 Needles  
B 19 Nursing Bottles  
B 19 Obstetrical Instruments  
A 19 Orthopedic Appliances  
B 19 Oxygen (Non-Medical)  
A 20 Oxygen Inhalers  
A 20 Oxygen Kits  
A 20 Oxygen Tents  
A 20 Oxygen — Therapy Equipment  
B 19 Ozium Spray  
A 19 Pads — Absorbent  
A 20 Pads, Alternating Pressure (Medical)  
A 20 Pads, Crutch (Medical)  
A 20 Pads, Flotation (Medical)  
B 19 Pads, Heating  
A 20 Pants, Incontinent (Medical)  
B 19 Paper Slippers  
B 19 Patient Helper  
B 19 Pel-Toner

## C — Exempt to doctors only when used as medical supplies for treating patients

B 19 Pelvimeter  
A 20 Pessaries  
B 19 Pharmaceutical Equipment  
C 19 Plastic Disposable Gloves  
B 19 Prostatectomy Instruments  
B 19 Rectal Sets  
B 19 Restraints  
A 20 Rubber Stockings  
B 19 Rubber Tubing  
A 20 Sacro Lumbo Supports  
A 20 Safety Toilet Frame (Medical)  
B 19 Sanette Bags  
B 19 Scissors (all types)  
C 19 Scrapers (Wood)  
A 19 Septisol — Liquid Soap  
C 19 Sera Sharp  
A 19 Sheet Holders  
A 19 Sheet Wadding  
A 20 Sick Room Equipment  
A 19 Silver Nitrate Solution  
A 19 Soap (Surgical)  
A 20 Splints  
A 19 Sponges (Disposable)  
A 19 Spray Bandages  
C 19 Steel Gauze (Disposable)  
C 19 Steel Wire (Surgical)  
A 19 Steri Pads  
B 19 Sterilizing Aids  
B 19 Sterilizing Equipment  
B 19 Sterilizing Solutions and tablets  
B 19 Stethoscope Tubing  
A 19 Surgi Lubes  
C 19 Sutures  
B 19 Syringe Bags  
B 19 Syringes  
A 19 Syringes (Disposable)  
A 20 Table, Over bed (Medical)  
C 19 Table Paper  
A 20 Toilet Seats, Raised (Medical)  
B 19 Touriquets  
C 19 Towels (Paper) used on patient  
C 19 Trachea Tubes (Disposable)  
A 20 Trapeze Bar (Medical)  
B 19 Trephine Set  
C 20 Truss  
B 19 Tubes, Gastric  
B 19 Tumor Screw  
B 19 Umbilical Buttons  
B 19 Umbilical Cord Clamps  
A 19 Urinal Bags  
A 19 Urinals  
A 19 Urinary Appliances  
B 19 Urine Specimen Bottle  
B 19 Urolicide  
B 19 Utility Sheets (Cloth)  
C 19 Utility Sheets (Paper)  
A 20 Walkers  
A 20 Walking Heels  
B 19 Waxed Bags  
A 20 Wheel Chair Accessories (Invalids)  
A 20 Wheel Chairs for Sick  
C 19 Wood Applicators  
C 19 X-Ray Developing Chemicals  
C 19 X-Ray Film  
B 19 Zephiran Chloride

## PARTIAL LIST OF ITEMS SUBJECT TO MARYLAND RETAIL SALES TAX

The following items are still subject to the Sales Tax. When any of these items or any combination of them are sold for 20¢ or more, the Sales Tax must be collected. This is not a complete list but may be used as a guide in determining the taxability of merchandise subject to the Sales Tax.

Aerosol Sprays (non-medical)	Flea Powders & Shampoos	Rubber Baby Pants
After Shave Lotions	Floor Wax	Sandwich Bags
Air Freshener	Flowers	Saran Wrap
Alcoholic Beverages	Flower Seeds	School Supplies
Aluminum Foil	Fly Paper & Stringers	Sealing Wax
Anti-Freeze	Fly Swatters	Shampoo
Appliance Rentals	Freezer Wrap (plastic bags)	Shaving Cream, Lotion
Athletic Supports	Fudge Mix (candy)	Shelf Paper
Auto Polishes and Waxes	Fuses-Electric	Shoe Polishes, paste, liquid or cream
Baby Bottle Nipples	Garbage Bags	Shopping Bags
Baby Bottle Sterilizers	Garden Tools & Equipment	Shrubbyery
Baby Bottles	Glue	Silverware
Bait (other than crab)	Grass Seed	Skin Lotions
Ball Jars & Lids (Mason, etc.)	Greeting Cards	Snow Melters
Bar Mixes	Hair Dressings, oil, tonic	Soap
Batteries	Hair Pins	Soap Powder
Beer	Hair Wave Sets	Socks (boy's, girls, men & women
Bird Seed, Perches, Gravel, etc.	Hand Brushes	Soft Drinks in unopened containers
Black Flag Liquid Sprayer	Hardware, all kinds	Sponges
Bleach	Horse Meat	Moth Balls (crystal, nuggets, spray)
Bluing	Ice	Napkins, paper hankies
Bobbv. Pins	Insect Bombs & Repellents	Nikoban (smoking deterrent)
Breath Fresheners	Jar Rubbers	Spoons, Plastic or Metal
Brooms (plastic, woods, etc.)	Kerosene	Sports Equipment & Accessories
Brushes (household)	Kitchen Utensils	Spray Guns
Buckets	Kleenex	Spray Nets
Cake Pans	Kotex & Kotex Belts	Starch (liquid, spray, powder)
Cameras	Laundry Bags	Stationery, Greeting Cards, etc.
Candles	Life Savers	Steel Wool
Candy Confections	Lighter Fluid	Sterno
Candy Reducing Remedies	Liquid Sand Paper	Straws, paper
Carbonated Beverages (bottles, cans & dietetic	Lunch Bags	Sun Glasses
Cat Food	Magazines	Talcum Powder
Cellophane Tape, assorted	Marshmallows	Tampax
Charcoal, briquettes	Matches (including book matches)	Tea Pots
Chewing Gum	Metal Polishes	Thermometer (non-medical)
Chinaware	Modess & Modess Belts	Three in One Oil
Chloride of Lime	Mops, Mop Handles, Refills	Tobacco, all kinds & forms
Chlorine (swimming pools)	Dish Cloths	Toilet Tissue
Christmas Trees & Decorations	Dish Towels	Tooth Brushes
Cleaners (liquid & powder-household)	Disinfectants	Tooth Paste
Clothes Lines, all kinds	No Doz	Tooth Picks
Clothing, Men's, Women's & Children's	Noxzema Cream	Towel Holders, dispensers
Coal	Oils, lubricating	Toys, plastic and all other kinds
Combs	Pails	Tuffy Pot Cleaners
Containers, plastic or glass	Pampers Disposable Diapers	Turpentine
Cosmetics	Paper Cup Dispensers	TV Guide
Denture Adhesive	Paper Cups	Vaseline (plain)
Deodorants, home & personal	Paper Plates	Wash Boards
Detergents	Paper Towels	Wash Tubs
Dog Food — Yummies	Peanuts, chocolate or sugar coated	Water (bottled)
Dupont Cement	Photo Flash Bulbs	Water Softeners
Dust Cloths	Pie Pans	Wax, floor, glass, etc.
Dust Mop Spray	Pitchers, glass or plastic	Wax Paper
Dyes, Tints	Plantabs	Whisk Brooms
Electric Light Bulbs	Plants (non food producing)	Whiskey
Encyclopedias	Plastic Forks, Knives	Window & Glass Cleaner
Facial Tissues	Plastic Jelly Glass Caps	Window Screens
Fertilizer (non-agricultural)	Polishes (including silver, metal, jewel)	Wine (other than cooking)
Film & Film Developing	Prophylactics	Wire
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	Resin Cleaner (used with water softeners)	



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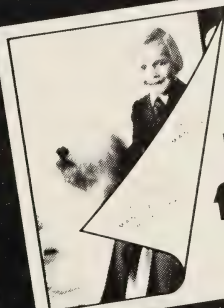
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3. Vote in primary and general elections and encourage family and friends to vote also.
4. Vote by absentee ballot if you are going to be out of town.

## PARTY AND CAMPAIGN ORGANIZATION

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2. Serve on a political party committee.
3. Work on a candidate's campaign committee.
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  - a. help a candidate or party address and stuff envelopes
  - b. distribute campaign literature in your neighborhood
  - c. prepare voter index cards and lists for campaigns
  - d. work in a phone bank to recruit other party workers or get people out to vote on Election Day
  - e. organize rallies and fund-raising events
  - f. type letters
  - g. act as a poll watcher
  - h. host a coffee/tea party for a candidate
  - i. design campaign posters and ads
  - j. give rides to the polls
  - k. be a precinct worker or a block captain

## WHY WRITE A PUBLIC OFFICIAL?

"Write your Congressman" is the proverbial advice given when someone complains about what Government has done, is doing, or is about to do. And, often the response is "Why bother, it won't make any difference anyway." On the contrary, it can and does make a difference.

Next to voting, writing a Member of the House, U.S. Senator, governor, state legislator or mayor is one of the most important ways a citizen can participate in our democratic system. The mail that public officials receive provides an indispensable link to the public official to deal with your request.

- **Try to be brief.** Certainly, you should take the time to explain your views and avoid gaps in your explanation. However, a long letter is likely to be set aside to be read when "there is more time," thus delaying any anticipated action by the public official. Try to keep your letter to one page or two pages at the most. If it must be longer, perhaps you should arrange to see the official in person to discuss the matter.

Don't overlook telegrams or telephone calls when time is short.

- **Get to the point.** It is best to summarize your position or problem in the first paragraph, using the balance of the letter to explain your views. This technique will help the officeholder and his staff more quickly identify why you are writing and help them expedite dealing with your request.

- **Be factual.** Avoid using arguments that cannot be substantiated with facts. You will hurt your credibility in future dealings you may have with the officeholder.

- **Personalize your message.** If you're writing about a legislative proposal, explain how it affects you or your business. It is difficult for a public official to base his decisions on abstractions. Give examples that illustrate your viewpoint.

- **Give essential background information.** Explain something about the background of your problem or concern. The official may not know as much about the matter as you. Also, if you have dealt with another official on the matter, mention so in your letter. The public official you are writing may wish to coordinate his activities with the first official.

- **Be positive.** Don't make a request of an official in a negative or hostile tone. Write him with an open mind and he will be more likely to deal with you in a similar manner.

- **Use proper references.** If writing about legislation, refer to the bill number and the subject to which it pertains. Often there is more than one measure dealing with a particular subject. Writing that you're "against that tax bill" will not necessarily be meaningful information to your Congressman or state legislator.



# What You Can Do In Politics

- I. write campaign material
- m. babysit for voters with small children on Election Day
- o. decorate meeting halls
- p. help publicize campaign and party events through the media

## FUNDRAISING

1. Contribute financially to a political party or candidate and solicit funds from others.
2. Volunteer your services to provide expertise in election laws, accounting, fund-raising, marketing and promotion.

## SUBSTANTIVE ACTIVITIES

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4. Communicate on issues with your elected representatives — local, state and national.
5. Write letters to the editor stating your position on a particular issue.
6. Hold appointive or elective office in government.

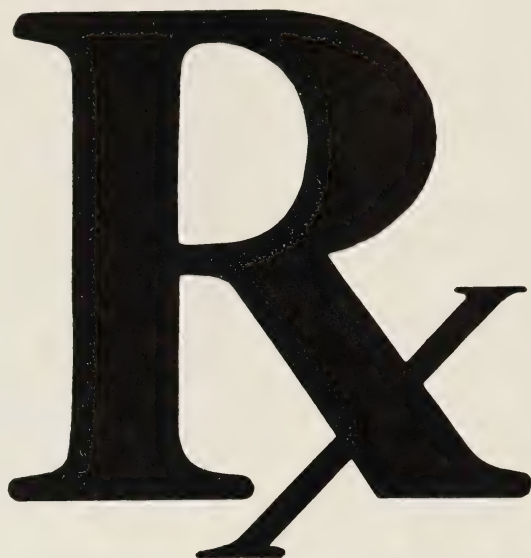


- **Don't use threats.** If someone wrote you asking that you consider a certain viewpoint or help with a particular problem, and then closed the letter by threatening to "get you if you don't come through for me," you probably wouldn't be very sympathetic to the request. Don't expect an officeholder to react any differently.
- **Clearly identify yourself.** If you are writing in an official capacity with your Company, indicate so. If you instead are writing as a private citizen, likewise indicate so and give your home address. In either case, be sure a return address appears on the letter in case the envelope is discarded. The use of Company stationery to express noncompany views and problems is a matter best left to individual Company policy.



Last year's legislative effort saw the passage of a physician labeling act; here signed into law by Governor Harry Hughes. Senator Rosalie Abrams (right) sponsored the bill and Dr. Gary Oderda, Director of the state Poison Control Center (left) provided essential testimony.





# R

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## calendar



- FEB. 10 (Sun.) — BMPA Banquet, Blue Crest  
FEB. 14 (Thurs.) — Monthly Meeting Maryland Society Hospital Pharmacists  
MAR. 2 (Sun.) — Alumni Association Dinner, Guest Speaker: Jerry Turner  
MAR. 3-5 — NARD LEGISLATIVE CONFERENCE, Washington, D.C.  
MAR. 6 (Thurs.) — Continuing Education Coordinating Council Seminar — Friendship Intl. Hotel  
MAR. 13 (Thurs.) — SAPHa Computer Exhibition Holiday Inn Pikesville  
MAR. 23 (Sun.) — AZO Berman Seminar: Rehabilitative Medicine  
MAR. 27 (Thurs.) — MPhA REGIONAL MEETING & HOUSE OF DELEGATES SESSION — Meushaw's Inn & Restaurant  
APRIL 19-24 — APPh Convention, Washington, D.C.  
MAY 13 (Tues.) — Balassone Lecture. Speaker: Ray Gosselin  
JUNE 20-22 — MSHP Annual Seminar — Ocean City, Md.  
JUNE 15-19 — MPhA CONVENTION — CAROUSEL IN OCEAN CITY — OUR BEST YET

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# THE MARYLAND PHARMACIST

Official Journal of  
The Maryland  
Pharmaceutical  
Association

MARCH 1980  
VOL. 56  
NO. 3



## Mitomycin C — A Brief Review

— Lily Chua, Judith Hartner, Paul J. Vitale

## Women in Pharmacy — Yours for Equality and Justice

— A.Ph.A. Chairman Mary Munson Runge

## Resources for Continuing Education

— Continuing Education Coordinating Council

# THE MARYLAND PHARMACIST

650 WEST LOMBARD STREET  
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MARCH, 1980

VOL. 56

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## Henry G. Seidman

Maryland Pharmacy has lost a valued friend when Henry G. Seidman passed away on February 14, 1980. Henry's service to the profession of Pharmacy through his many activities was well-known to us all. He touched our lives in many ways.

Henry was director of continuing education and an assistant professor at the School of Pharmacy. Through this work he spread knowledge and experience through outstanding programs while he labored behind the scenes to make it all possible.

He served in a number of offices of the Association including a productive term as President in 1975. Again his concern and dedication to the profession he loved showed through all that he accomplished within the Association.

His awards and honors over the years from fraternal, social and professional societies remind us how thoroughly he was involved in organizations too numerous to mention here.

He was a man of tremendous energy, vitality and compassion. He was blessed with a rare sense of humor. Maryland Pharmacy has lost a great friend, tireless worker and dedicated pharmacist.

RONALD LUBMAN

# Mitomycin C — A Brief Review

by

Lily Chua, R.Ph.\*, Judith Hartner, R.Ph.\*,  
Paul J. Vitale, Pharm.D.\*\*

Mitomycin C is an antitumor antibiotic isolated from *Streptomyces caespitosus* in 1958, as blue-violet crystals.<sup>2</sup> It has a molecular weight of 334.<sup>2</sup>

## Mechanism of Action

Mitomycin C can act as bifunctional or trifunctional alkylating agent and requires activation by reduction of the quinone group and subsequent loss of the methoxy group. The liver is thought to be the main organ of biotransformation, but most tissues have the capability of metabolizing the drug.<sup>1,2</sup> Activation occurs rapidly and the active intermediate is unstable, therefore, target DNA must be present during the reduction.<sup>1,2</sup> The action of mitomycin C is relatively specific, i.e. DNA synthesis inhibition secondary to alkylation.<sup>2</sup> The degree of DNA cross-linking and tumor inhibition is proportional to the guanine and cytosine content of the DNA.<sup>1,2</sup> Early G<sub>1</sub> and S phases are most sensitive, while G<sub>2</sub> phase is less sensitive to the action of mitomycin C.<sup>2</sup>

## Pharmacokinetics

Mitomycin C is usually administered intravenously as a direct injection or infusion. Mitomycin C can be absorbed orally but requires doses 8 to 12 times the IV dose for equivalent activity.<sup>1</sup> This drug has also been administered intravesically, intraperitoneally, and intra-arterially.<sup>1</sup>

Mitomycin C is widely distributed in the body, with the highest drug concentration found in the kidney.<sup>2</sup> The tongue, muscle, heart, lung, bile, and ascitic fluid also demonstrate high concentrations of mitomycin C.

After intravenous administration, mitomycin C is rapidly cleared from the serum through metabolism with the rate of clearance inversely proportional to the maximum serum concentration.<sup>2</sup> This seems to be related to saturation of metabolic pathways.<sup>2</sup>

Ten percent of a dose of mitomycin C is excreted unchanged in the urine.<sup>1</sup> Because metabolic pathways are saturated at relatively low doses, the percentage of mitomycin C excreted in the urine increases with increasing doses.<sup>2</sup>

## Indications

Mitomycin C appears to be active in:<sup>2</sup>

- adenocarcinoma of the stomach
- adenocarcinoma of the pancreas

- adenocarcinoma of the colon
  - adenocarcinoma of the breast
  - certain head and neck cancers
  - chronic myelogenous leukemia
- Mitomycin C may be active in:<sup>2</sup>
- squamous cell carcinoma of the cervix
  - carcinoma of the lung
  - ovarian carcinomas
  - biliary carcinoma

## Dosage and Administration

Mitomycin C is not indicated as a single agent, primary therapy.

Some of the dosage schedules recommended are:

- (1) 20mg/M<sup>2</sup> intravenously as a single dose at 6-8 week intervals.
- (2) 2mg/M<sup>2</sup>/day IV for 5 days, drug-free 2 days, 2mg/M<sup>2</sup>/day again for 5 days to obtain initial dose of 20mg/M<sup>2</sup> given over 10 days at 6-8 week intervals.

Intermittent dosage schedules are probably best. Generally, doses greater than 20mg/M<sup>2</sup> have not been shown to be more effective, and are more toxic.<sup>1</sup>

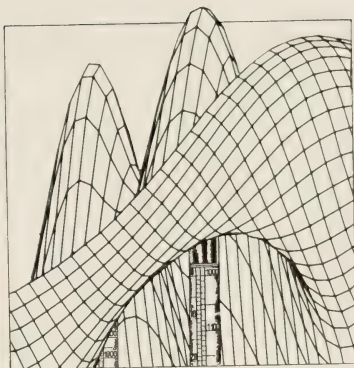
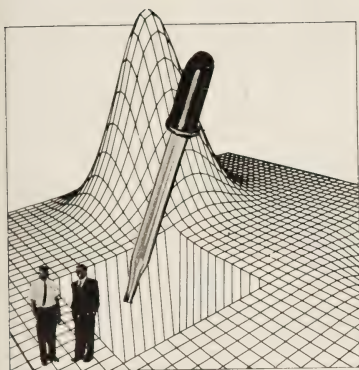
## Toxicity

The most significant toxicity of mitomycin C, in man, is myelosuppression. This toxicity is delayed and dose related.<sup>2</sup> It has been reported that a dosing regimen of 50mcg/Kg/day for 6 days, then every other day produces thrombocytopenia in the 5th or 6th week and leukopenia in the 6th or 7th week.<sup>3</sup> Single doses of mitomycin C at 20mg/M<sup>2</sup> have been reported to produce mean nadir times of 3.5 and 4.1 weeks for leukopenia and thrombocytopenia, respectively.<sup>3</sup> The usual duration of leukopenia has been found to be 1 to 2 weeks, while thrombocytopenia continues for 2 to 3 weeks.<sup>2,3</sup> The duration appears to increase with decreasing initial counts.<sup>2</sup>

When dosing mitomycin C on a schedule of 50mcg/kg/day for 6 days, and then every other day until toxicity is manifested, the results have been consistent with the mean total tolerated dose usually 35 to 45 milligrams, and approximately 55% of patients experiencing toxicity.<sup>2</sup> Baher, et.al.<sup>6</sup> reported that 20mg/M<sup>2</sup> every 6 to 8 weeks produces less hematologic toxicity.<sup>2</sup> The mean dose, received by responders, reported was 99.8mg, and though the incidence of toxicity was high, since patients were treated with multiple courses, the incidence of life threatening toxicity or toxicity

\*Staff Pharmacist — The Johns Hopkins Hospital Department of Pharmacy Services — Oncology Satellite

\*\*Clinical Pharmacist — The Anne Arundel General Hospital



necessitating discontinuity of therapy was lower than with the dosage schedule utilizing 50mcg/Kg/day.<sup>2</sup>

Other toxicities of mitomycin C include: anemia; mild nausea, vomiting, and diarrhea with occasional anorexia.<sup>2</sup> Infrequently, patients experience stomatitis and occasionally a skin rash, with alopecia occurring in 4% of patients.<sup>2</sup> Occasionally patients have had hepatotoxicity concomitant with mitomycin C therapy.<sup>2,7</sup> A well documented but unusual toxicity is renal failure.<sup>1,2</sup> This renal toxicity is delayed (occurring several months after initiation of therapy) and patients experiencing the complication had received relatively high total doses.<sup>2,8</sup>

Mitomycin C is a vesicant and care must be exercised to prevent infiltration into surrounding tissue when it is administered intravenously.

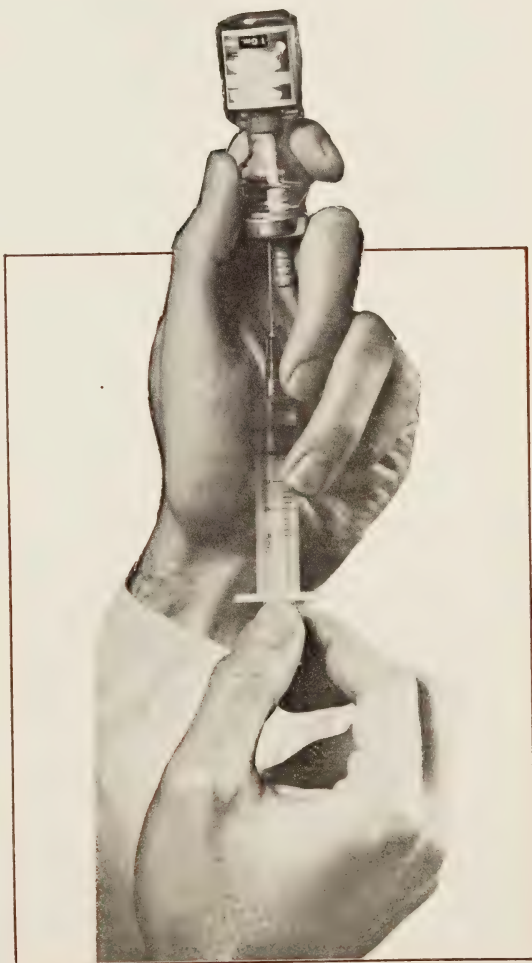
#### Resistance

Resistance to mitomycin has been shown to develop in animal and human tumors.<sup>2</sup> Mitomycin C resistant tumors demonstrate cross resistance to other alkylating agents. However, tumors resistant to other alkylating agents are frequently sensitive to mitomycin C.<sup>2</sup>

We would like to express our appreciation to Dr. Michael Colvin for his review of this information. We would also like to thank Ms. Eva Hecker, Mary Rusk and Patricia Bream for this secretarial assistance.

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# Recruiting for Pharmacy: PART I

by

**Dr. Dean E. Leavitt**  
Associate Dean for Administration  
and Professional Services

At some time in each of our lives, the decision to become a pharmacist was made. For each, the process was, at least, a little bit different. Some had relatives already in the profession and had years to weight the pros and cons of joining the profession while others just happened to fall into it with little or no actual exposure to its merits, advantages, and/or disadvantages. No matter, one day you applied to a school of pharmacy, were admitted, to eventually graduate and become a registered pharmacist.

There are a lot of young people today going through this endless process to eventual registration, fewer evidently than in the recent past because of a decreased birth rate and fewer perhaps in the future.

Most of us recall the indecisions that abound with the late teenage years. What do you want to become? What do you want to do after graduation? Where are you going to college? What are you going to study? Some of us remember the chance meeting with a teacher, a counselor, a relative which helped us take the final step.

With a decreasing pool of candidates for admission to pharmacy schools, it is essential that an aggressive recruiting effort be undertaken. The community pharmacist is in an excellent, front-line position in regard to recruiting. Each community pharmacist, through active recruiting, can have a

drastic effect upon the future of pharmacy.

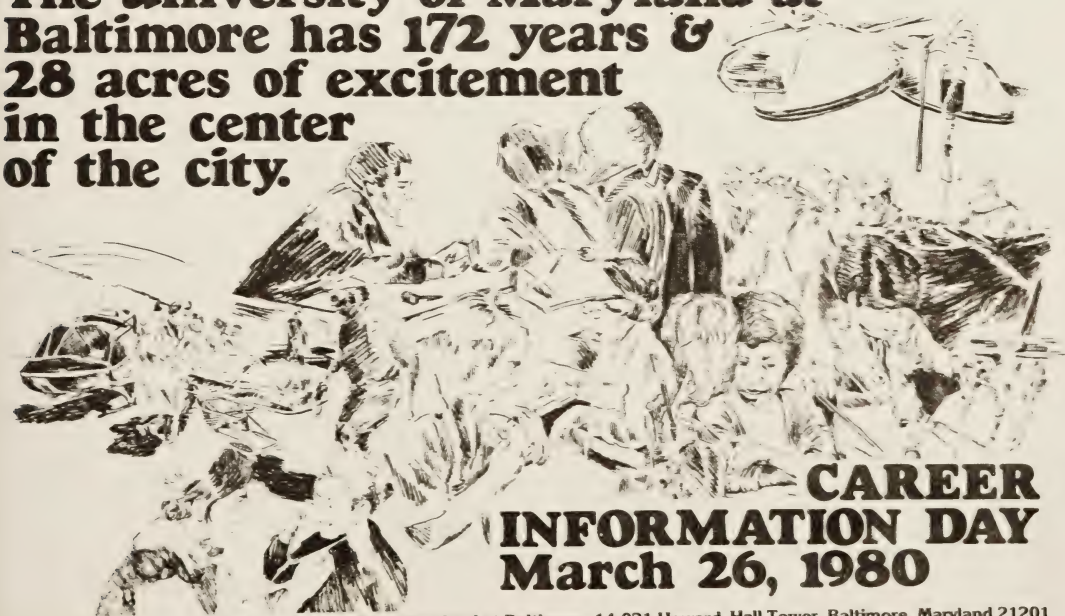
Each of us, through active recruiting efforts, could improve the future of the profession by helping the good student select pharmacy as a career. Conversely, knowing the rigors of the pharmacy curriculum, we could indicate to the poorer student what academic skills are important for success in the professional academic program. These students would then have an opportunity to improve their skills before applying for admission. One of the more pleasant side effects of the increased quantity and quality over the past few years has been a decrease in our attrition rate from around 20% to 8%.

Some practitioners may be reluctant to get involved in recruiting because of the current employment prospective. However, the effort should not increase the number of graduates but could have a decided effect upon the *quality* of the applicant, the student and the graduate pharmacist.

We could all let someone else talk the quality students into the other professions but with a little effort on the part of each of us, pharmacy could attract its share of quality applicants.

Next month, another article on recruiting will outline and describe the resources available to any community practitioner who would like to get involved in actively recruiting students to pharmacy.

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# “WOMEN IN PHARMACY YOURS FOR EQUALITY AND JUSTICE”

by

Mary Munson Runge

Chairman, A.Ph.A. Board of Trustees

Presented before the Maryland Pharmaceutical Society Banquet  
honoring Black women in Pharmacy

I would like to speak to you about a subject near and dear to us all — sex! . . . The female sex. And, I would like to speak to you about perceptions. Yours. Mine. Our patients'. The profession's. Our fellow health care professionals'. Employers'.

The Department of Health, Education and Welfare has predicted that by 1990 the number of women pharmacists will have grown to the point that almost one out of every three pharmacists in the United States will be a woman.

Although only about one out of every five pharmacists in America today is a woman, 38% of all pharmacy degrees awarded in 1978-79 were awarded to women.

Some of the most dramatic graduation figures for women pharmacists have come from schools of pharmacy with predominantly Black enrollments. These schools have truly led the nation in percentages of women graduates. Although a number of schools across the country graduated more female pharmacy students than male students during the 1978-79 academic year, this was most dramatically true for Black graduates from almost all of the schools of pharmacy with predominantly Black enrollments. Let me cite some examples.

During 1978-79, Howard University graduated 15 Black women pharmacists, and 5 Black men pharmacists. My alma mater, Xavier, graduated 27 Black women and 16 Black men. Texas Southern graduated 21 Black women and 11 Black men. The only exception was Florida A & M — and even there the graduating class was almost equally divided between Black men and women. Interestingly, during the same year, among the White students attending these schools, there were overwhelmingly more male graduates than female.

I find these numbers most significant. For what they mean is that the changes which will come about due to the “sex change” our profession is experiencing will be evident first among the ranks of Black pharmacists.

I have long felt that the increased number of women in the profession is relevant not only to women, but to men as well. And, that is especially true of Black men, as the graduation figures so clearly indicate.

In understanding what impact the increased number of women in the profession will have on our professional future, it is interesting to look back at the history of women in the profession.

In a recent book review on the history of women in pharmacy in France, it was pointed out that the book *Les Femmes et la Pharmacie* chronicled a truly uphill battle for women pharmacists in that country. As the book review pointed out, in 1814, an eminent French pharmacist “issued an Olympian pronouncement on the qualifications of women to be pharmacists: ‘Custom, opinion, decency, and even reason,’ he proclaimed, would suffer from such a policy.”

Unfortunately, his was not a lone voice in the wind. At that time, all professions were “bastions of male supremacy.”

Today 60% of France's pharmacists are women — which just goes to show, not only have we come a long way, baby, but once we set our minds to achieving a goal, there just is no stopping us!

As women have an increasingly greater impact on the profession, it is interesting to see how the perception of women in pharmacy has changed over the years. In the American Pharmaceutical Association's library there is an article from a Wisconsin Pharmaceutical Association publication dated 1898, now yellowed with age. The article by Martha Morris James, is accompanied by a picture of Ms. James, a pharmacist at the turn of the century. The picture shows Pharmacist James with a high collared blouse and puffy sleeves. All that's missing is a cameo at her neck. Her hair is severely parted in the center. Though her attire reflects a bygone age, the point she makes is as significant today.

The article is titled, “That a Woman Makes as Good a Pharmacist as a Man, Providing They Have Equal Advantages.”

I personally find it interesting that this premise was even considered a debatable question at that time. That in itself reflects a great deal about the image of women pharmacists then held by the profession.

In her paper, Pharmacist James quotes from several male pharmacists. One quote by a fellow pharmacist states: “In many cases the life of the patient is actually in the hands of the prescription clerk when the least inaccuracy would prove fatal. It, therefore, requires a cool, clear brain and a steady nerve. Who possesses these qualities to such a degree as the woman who keeps early and regular hours, attends strictly to business, lives a pure life in the sight of God and man, is addicted to no form of dissipation whatever?”

Pharmacist James then adds: “Our sex has more moral



courage and is not so easily tempted by the green-eyed monster who walks with muffled step in the path of all mankind. Cultivate this noble quality and you have gained another round in the ladder."

A pharmaceutical journal published prior to Ms. James' article also drives home the perception of women pharmacists at that time. "The girl's training at home in looking after the details of the house fits her all the better for the profession of pharmacy," the article says. "Her neatness and dispatch and delicacy of touch as well as keen insight and artistic eye are all brought into play in the drug store. Every woman who makes a loaf of sweet, nutritious bread is somewhat of a chemist, and when she can make a cup of clear amber coffee (without extracting the tannic acid) has learned something of percolation, filtration and distillation. When her deft fingers, like magic, transform her room into a bower of beauty, she is already prepared to arrange a show window and bring out all the best points of the goods."

How could one ever hope to improve upon a perception of women such as that — neat, insightful, artistic. But it is precisely the fact that the perception of women pharmacists differed from that of men pharmacists that needed changing. Let me explain. Somehow it was felt that women in the profession had to be put on a pedestal, they had to be glorified, but above all *justified*. And, this is understandable, since women in pharmacy at the time were rare.

It took a strong breed of women to venture into a previously male domain. That woman was the exception, not the rule, and, therefore, the perceptions held of women in the profession saw the woman pharmacist as unique.

The thinking went something like this: "Women in the profession, well, I don't know, that's unusual. It's a change. Isn't it a bit risky. A woman's only place is in the home baking bread, making coffee, decorating, cleaning house, caring for the family. Well, there is a certain amount of chemistry in baking and filtration in brewing, and healing in caring for sick children. Well, maybe it's okay. After all, women are reliable, and they are upstanding and God-fearing, and they don't rob banks or steal horses. And they aren't so easily tempted by the green-eyed monster. Maybe they would be good pharmacists."



Dr. Phyllis Stubbs (left), representing Baltimore Mayor William Schaefer, presents a special certificate to Mrs. Theresa Weaver, the first Black woman Pharmacist in Maryland.



A.Ph.A. Chairman of the Board, Mary Munson Runge (left) receives an award from Dr. Phyllis Stubbs. Mrs. Runge delivered the keynote address at the Maryland Pharmaceutical Society Dinner honoring Black Women in Pharmacy. The affair was held on January 19th at the La Fontaine Bleu in Baltimore.

But, unfortunately, nowhere in this line of thinking is any mention made of training and ability. I look back at Pharmacist James' premise so many years ago — "a woman does make as good a pharmacist as a man, *providing they have equal advantage*." That means equal training and equal opportunities to use that training.

We've come a long way since the time woman first made her mark in American pharmacy. And with the greater number of women in the profession came greater acceptance. Or did it?

And, as more and more women became pharmacists, there came about a dramatic change in the perception of women in the profession. Or did it?

Let us examine some of the perceptions held of women pharmacists today, in comparison to their male colleagues. I recently heard a statement made about female legislators. At the time I thought how equally true it is of pharmacists. Or attorneys. Or physicians. It goes something like this."

A male pharmacist is aggressive; a female pharmacist is pushy.

He is good on details; she is picky.

When he's depressed, everyone tiptoes past his office; she's moody.

He follows through; she doesn't know when to quit.

He's confident; she's conceited.

He stands firm; she's hard.

His judgments are her prejudices.

He drinks because of excessive job pressure; she's a lush.

He isn't afraid to say what he thinks; she's mouthy.

He exercises authority diligently; she's power mad.

He's closed mouthed; she's secretive.

He's a stern taskmaster; she's hard to work for.

Who hasn't heard, thought or uttered one of these thoughts at one time or another about a fellow pharmacist. That professionals perceive their male and female colleagues in different ways is not a startling revelation. But each of us — both male and female — will have reached a real achievement if we can take those perceptions just one step further and ask ourselves, "Do I feel that way about my colleague simply because she is a woman. Would I feel the same way and use the same label if she was a man?"

At this point you may be asking yourself, has the American Pharmaceutical Association entered this arena? Just what is the American Pharmaceutical Association doing in the area of women in pharmacy. *Plenty!* The strides which women have made in the profession are clearly reflected in your national professional society's leadership. And the images and perceptions held of women pharmacists by the profession have certainly not been wanting at pharmacy's ballot box. Although APhA has been in existence for 128 years, last year I served as the first woman and the first Black president and chairman of the board of APhA. I was very pleased recently to be reflected to serve a second term as chairman of the board. However, I was equally pleased to note the large number of women who are serving in leadership roles along with me this year.

Diane Fisher, a pharmacist from Chicago is serving with me on the Board of Trustees. The Academy of Pharmacy Practice has just elected Susan Torrico to serve as its first woman president, and she takes over the reins of that subdivision in April.

The Student American Pharmaceutical Association elected Barbara Treadwell its first woman president several years ago. Currently, Lucinda Maine is president of this student group, and another woman, Cynthia Iannarelli, will take over from Lucinda in April. Women also serve on most APhA boards and committees. I told you there was no stopping us!

But APhA's involvement with women in pharmacy does not end at the ballot box. One of the most enjoyable duties I have performed during my term as chairman of the board was to appoint APhA's new Task Force on Women in Pharmacy.

I have personally asked the task force to look at this important issue from the standpoint of the entire profession — men and women practitioners, for I feel that the subject impacts on each and every one of us. For that reason, I appointed a task force comprised of both men and women.

This top level task force will assess the impact which an increasing number of women pharmacy practitioners will have on the pharmacy profession of women pharmacy practitioners will have on the pharmacy profession during this decade, how this will affect the role of the pharmacy profession in providing pharmaceutical service for the public, and the ultimate effect on health care in general.

Among the issues the task force will be studying are the perceptions held of women as pharmacists and the extent to which women pharmacists will become involved in leadership, decision-making and policy-forming roles. In addition, the group will assess emerging practice patterns and the educational and practice needs and expectations of women pharmacists.

Although women in pharmacy have become a common sight, this is not equally true of all areas of pharmacy practice. There still are relatively few women in research, in marketing/sales, in teaching, in management and in association work. The task force will be looking at those things which affect a woman's decision to pursue career options which are available in traditionally male fields of pharmacy.

Women today are venturing to open doors that have been closed to them for too long. The growing ranks of women

pharmacists are looking for career-escalating opportunities. For example, although there are a number of male pharmacists who are presidents of pharmaceutical manufacturing companies, not one woman pharmacist holds this post. While a number of male pharmacists are presidents of major chain pharmacy corporations, no women hold that post. I am not saying that women want to start their careers as president of a major corporation, but the fact remains that there are relatively few women who are even in the top ranks of the corporate structures, and there is an equally small number of women serving on corporate boards of directors.

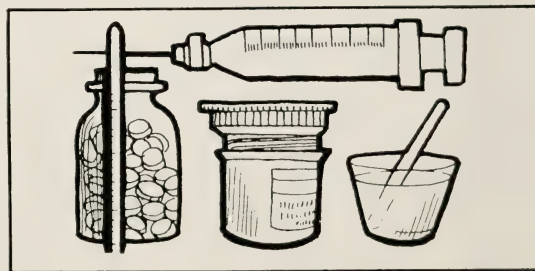
I am sure someone is going to ask why we don't practice what we preach at APhA. In fact, we do. I have already told you of the strides that women have made at APhA's ballot box in recent years. In addition to that, APhA does have women in top executive positions on our staff. I can assure you the voice of women is being heard loud and clear in the decision-making process of your national professional society.

The practice of pharmacy has taken an evolutionary turn. Women in pharmacy are not a new phenomenon. It is merely a reaching back in history to the days when the early pharmacist — the herbalist — was traditionally a woman. One can look as far back as the mythical Greek goddess Hygieia and find women in pharmacy. However, in this country, the history of women pharmacists has been more recent, spanning only the last century.


In closing, I wish to once again turn back the clock with a quote from a woman physician in South Dakota. Pharmacist James found this quote relevant for her article in 1898, and I find it equally persuasive today.

"A great light burst upon the world when the science of pharmacy swung back to its original home, the hand of woman, and its rays are melting away much prejudice, solving one more problem for science and women. Women apothecaries once were examined by learned physicians and were given the right to prepare and sell drugs, and many of them enjoyed a high reputation in the business until the jealousies of men drove them out, and a few still are inclined to keep them out. It may be that woman-kind smarting under the lash, because of her sex, may arise in the might of her intellect and triumphantly march on to victory, bearing aloft the banner awarded for highest degree of intelligence. All honor to the knightly, courteous manhood which recognizes every woman a sister. I respect and admire the knightly manhood of our country, but remain yours for equality and justice."

Thank you.







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# Resources for Continuing Education A Survey of Self-Study and Small Group Programs

Compiled by

Toni Plucinski



Toni Plucinski is a graduating pharmacy student at the University of Maryland School of Pharmacy. She compiled this report as part of a special studies externship in the offices of the M.Ph.A. The survey is designed to assist pharmacists who are interested in self-study or small-group continuing education experiences. Contact the presentors of each program directly for additional information.

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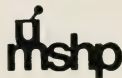


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Microorganism Resistance To Antibiotics 0.15 CEU 1.5 hours  
Host Resistance To Pathogenic Microorganisms 0.15 CEU 1.5 hours  
Principles of Antibiotic Use in Ambulatory Care Part 10.1 CEU 1 hour, Part 10.1 CEU 1 hour  
Drug Therapy For Rheumatoid Arthritis 0.2 CEU 2 hours  
Legal Forms of Pharmacy Organization 0.05 CEU 0.5 hour  
How To Use the Iowa Drug Information Service Drug Literature File 0.2 CEU 2 hours  
Introduction To Clinical Pharmacokinetics With Applications To Digoxin Therapy 0.25 CEU 2.5 hours  
Diabetic Ketoacidosis: Pharmacotherapeutic Management 0.2 CEU 2 hours  
Oral Contraceptives 0.1 CEU 1 hour  
Pathogenesis and Treatment of Diabetes Insipidus 0.15 CEU 1.5 hours  
Rational Use of Laxatives 0.1 CEU 1 hour  
Lice and Scabies Infestation: Incidence, Diagnosis, and Management 0.1 CEU 1 hour  
Prescription and Non-prescription Antidiarrheal Agents 0.1 CEU 1 hour  
Skin Physiology and Terminology 0.1 CEU 1 hour  
Treatment of Dermatitis (Eczema) and Dry Skin Disorders 0.1 CEU 1 hour  
A Pharmacist's Guide To Primary Bacterial Skin Infections and the Use of Topical Antibiotics 0.1 CEU 1 hour  
Nonprescription Otic Products 0.1 CEU 1 hour  
The Pharmacological Basis For Vasodilator Therapy In Acute Congestive Heart Failure 0.1 CEU 1 hour  
Nonprescription Ophthalmic Products 0.2 CEU 2 hours  
Sexually Transmitted Diseases 0.1 CEU 1 hour

Hoechst-Roussel Pharmaceuticals, Inc.  
Daniel W. Frascella, Coordinator  
Pharmacy Seminar Program  
Rout 202-206 North  
Somerville, New Jersey 08876  
(201) 685-2102

## PROGRAMMED INSTRUCTION

Renal Physiology cost n/a \*CEU n/a Time To Complete n/a  
Fibrinolytic Therapy cost n/a \*CEU n/a Time To Complete n/a

University of Illinois College of Pharmacy  
Elmore H. Taylor, Ph.D., Associate Dean  
for Continuing Education  
833 South Wood Street  
Chicago, Illinois 60612  
(312) 996-7190

## INDEPENDENT STUDY AUDIO-CASSETTES

The Pharmacist's Role In Total Parenteral Nutrition 1.0 CEU \$40.00 10 hours  
Marketing Professional Pharmacy Services 2.0 CEU \$50.00 20 hours  
Contraception: New Directions In Pharmacy Practice 2.0 CEU \$50.00 20 hours  
Hypertension 2.0 CEU \$50.00 20 hours  
Chemical Basis of Drug Action Parts 1 & 2 2.0 CEU/Part \$50.00/Part 20 hours  
Part  
Teratology 1.5 CEU \$35.00 15 hours

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**John Bright, Director Professional Relations**  
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 Cincinnati, Ohio 45227  
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 NO CHARGE**

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**Jeremy A. Matchett, Director**  
**Pharmacy Continuing Education**  
**Malott Hall, Lawrence, Kansas 66045**  
**(913) 864-4882**

**CORRESPONDENCE COURSES**

*Pharmat Volume VI* 1.2 CEU/6 lessons \$30/6 lessons 12 hours/6 lessons  
 1. Introduction to Clinical Laboratory Measurements  
 2. Management of Depression and Anxiety  
 3. Introduction to Cancer Chemotherapy  
 4. Headache  
 5. Pulmonary Emphysema  
 6. Hypertension

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**Pearl River, New York, 10965**  
**(914-735-5000)**

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 Infections of the Urinary Tract (slides/cassette) \*CEU n/a 1 hour  
 Treatment of Acute Drug Overdose (film) \*CEU n/a 1 hour  
 Encounter At the Prescription Counter (film/guided discussion) 2 hours  
 Malpractice In Pharmacy (film) \*CEU n/a 1 hour

(for individual use) NO CHARGE PROGRAMMED LEARNING  
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 Cardiovascular Diseases \*CEU n/a 8 hours  
 Pharmacy Management \*CEU n/a 5 hours  
 Rheumatic Diseases and Current Therapy \*CEU n/a 6 hours  
 Obstetric and Gynecologic Disorders \*CEU n/a 8 hours  
 Antibiotic Therapy With Aminoglycosides \*CEU n/a 2 hours  
 Analgesic Therapy \*CEU n/a 4 hours

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**24 Bellamy Road**  
**Springfield, Massachusetts 01119**  
**(413) 783-4161 ext. 294**

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(reprints from *The Apothecary* available on request; completion time n/a)  
 0.2-0.3 CEU/Part \$2-\$4 (fee for credit)/Part

**Geriatric Series**

Part I: — Biopharmaceutical Aspects of Geriatric Pharmacy  
 — Monitoring of Geriatric Drug Therapy

Part I: — Biopharmaceutical Aspects of Geriatric Pharmacy  
 — Monitoring of Geriatric Drug Therapy

Part II: — Psychotropic Drugs in the Elderly  
 — Cardiovascular Drugs in the Elderly

Part III: — Diabetes Mellitus in the Elderly  
 — Rheumatoid Arthritis in the Elderly

**Pediatric Series**

Part I: — The Fetus: Conception To Birth  
 — Pharmacokinetics of Drugs in the Neonate

Part II: — Pharmacotherapy and Breastfeeding  
 — Drug Use in the Infant, Toddler, and Small Child

Part III: — OTC Drug Therapy in Infants and Children  
 — Adolescent Medicine

**Emergency Health Care Series**

Part I: — Cardiopulmonary Resuscitation  
 — Practical Pharmacology in CPR  
 — Patient Education in Poisoning: Prevention and Management  
 Part II: — Bites and Stings of Venomous Arthropods and Snakes  
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**The Antibiotic Series**

Part I: — The Clinical and Pharmacological Aspects of the Penicillins  
 — The Clinical and Pharmacological Aspects of the Tetracyclines

Part II: — A Clinical Perspective of Erythromycin  
 — The Clinical Pharmacology of the Sulfonamide Antibiotics

Part III: — Clinical Pharmacology and Current Therapeutic of Aminoglycosides  
 — The Cephalosporins: An Overview

Part IV: — To Be Announced

**Rho Pi Phi Pharmaceutical Fraternity**  
**Murray M. Wolfe, Ph.D., Director**  
**Office of Continuing Education**  
**5351 S.W. 35th Manor, Ft. Lauderdale, Florida 33314**  
**(305) 792-0642**

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**SUBJECTS:** 0.1 CEU each \$2.50/rental, \$10 deposit 1 hour each  
 Laxatives, Sleep aids, and Internal Analgesics  
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 Laxatives Part A  
 Laxatives Part B  
 Insect Bites  
 Non-narcotic Analgesics  
 Antiperspirants and Deodorants  
 The Law of Torts  
 Contracts and Law Part A  
 Contracts and Law Part B  
 U.S. Business Laws  
 U.S. Court Systems  
 U.S. Property Law  
 Federal Pharmacy Law  
 Comprehensive Drug Abuse Laws  
 Interactions of Hypertensive Drugs  
 Antibiotic Therapy  
 Neoplastic and Cancer Therapy  
 Anticoagulants  
 Sulfonamides and Other Anti-Infectives  
 Minor Tranquilizers  
 Barbiturates  
 Protein Binding  
 Placebos  
 Narcotic Analgesics  
 Anti-Depressant Drugs  
 Major Tranquilizers  
 Drug Interactions With Alcohol  
 Antibiotic Therapy  
 Physiology and Pharmacology of the Eye  
 Antihistamines  
 Drug Interactions  
 Anti-inflammatory Steroids  
 Hypertension and Anti-Hypertensives  
 Digitalis and Cardiac Glycosides  
 Coronary Dilators, Other Vaso dilators, and Angina Drugs  
 Physiology of the Cardio-Vascular System  
 Anti-Arrhythmic Agents  
 Clinical Community Pharmacy  
 Current Chain Store Management  
 Pharmacy Economics  
 Pharmacy Services, Myth Or Fact  
 Non-Rx Drug Abuse  
 Bad Checks, Trusts, Investments  
 Venereal Disease  
 Malaria and Amebiasis  
 Diabetes Part A  
 Diabetes Part B  
 Congestive Heart Failure  
 Congenital Diseases  
 Tests For Liver Functions and Diabetes  
 Glucose Diagnosis and Diabetes Control  
 Kidney Function Tests Part A  
 Kidney Function Tests Part B  
 GI Functions, Malabsorption  
 Liver Function Tests  
 Thyroid and Parathyroid Tests

**Pharmacy In Japan**

The Problem of Opium Smuggling (0.5 hour, 0.05 CEU)

**Contact Lenses and Their Solutions**

Pharmacy Services, Myth or Reality (by Dr. Albert Wertheimer)  
 Symposium On Drug Interactions (3.5 hours)

New Drugs For Arthritis

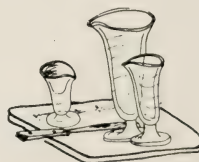
New Drugs For Hypertension

Symposium On Government (Federal) In Pharmacy (4 hours)

New Concepts In Acne Treatment (Arthur Weil)

Gerontology: The Science of Geriatrics

To be continued in the next issue





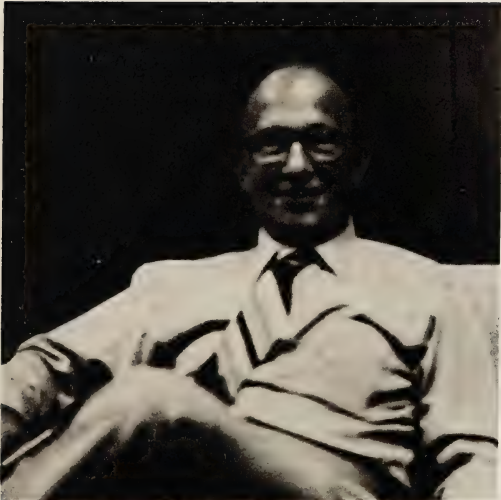


Members of the Eastern Shore Pharmaceutical Association met on January 27, 1980 at the Federalsburg Fire Hall for their Annual Banquet and business meeting.



Member Morty Scherr (left), owner of Marlyn Pharmacy in Essèx, recently won \$10,000 in the Maryland State Lottery. Scherr shows the winning ticket with employee Patsy Scheidt who sold him the ticket at the Pharmacy.

This picture space  
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M.Ph.A. Member Milton Moskowitz from Silver Spring, Maryland has been elected as President of the American Society of Consulting Pharmacists.





# What's new in contraception?

# COUPLE'S CHOICE™

## The New Alternative.



**Please see your Youngs representative for introductory offer and year round advertising allowances available through April 30, 1980.**

Here's a combination that completely avoids the complications and possible dangerous side effects of the pill and the IUD.

A sensitive Trojan® ribbed condom is the man's way to please his partner and still provide effective contraception.

Mildly scented, KOROMEX® Foam is the woman's choice for a comfortable, easy to use contraceptive that enhances the

mood of "feeling in love."

When used together, they're even more effective.

Couple's Choice is perfectly packaged for peg and/or shelf displays and it's backed up by national advertising.

Ask your Youngs territory manager or your wholesaler for the new alternative in contraception.

Couple's Choice.



YOUNGS DRUG PRODUCTS CORP., PISCATAWAY, N.J. 08854

While no contraceptive method is 100% effective, when used together, condoms and foam are considered by leading physicians and clinics to be a most effective means of contraception.

# Thank You



## DISTRICT PHOTO INC

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Beltsville, Maryland 20705  
In Washington, 937-5300  
In Baltimore, 792-7740

# LETTERS



Dear Dave,

Thank you for your understanding in the erroneous information recently published in *Drug Topics* (January, 1980), which your Newsletter also ran in the February issue. As I discussed on the telephone, three entries in the Lederle STANDARD PRODUCTS line are unjustifiably tarnished by this report:

Approved ANDA #	Approval Date
85-899	Feb., 1978

Dihydroergotoxine Methanesulfonates Sublingual Tablets, 0.5 mg

85-900 Feb., 1978

Dihydroergotoxine Methanesulfonates Sublingual Tablets, 1.0 mg

86-513 Aug., 1979

Spironolactone with Hydrochlorothiazide Tablets, 25/25

The attached photocopies of ANDA approvals from FDA will substantiate any charge that the *Drug Topics* article is false.

The impact of this erroneous and misleading information on the pharmacist reader remains to be seen. However, in a relationship built on confidence and credibility, the results are bound to create negative feelings.

Your agreement to rectify the error quickly through both publications of the Association is very much appreciated as an effort to reduce the harm as much as possible.

Sincerely,

Jerry B. Johnson, Pharm.D., R.Ph.  
Associate Director  
Professional Services  
Lederle Labs

Dear Dave:

Here is a copy of a letter I sent to Medimet that you might want to share with others in the letters to the editor column.

Jerry

Mr. H. F. Blair  
Vice President  
Metropolitan Life  
Medimet Claim Office  
P.O. Box 56  
Utica, New York 13503

Dear Mr. Blair:

According to the revised G.E. Pensioner's program you intend for us to bill you charging our sale price less the discount our senior citizens are entitled.

The senior citizens' discount is an attempt by Pharmacy to meet the needs of persons most dependent upon but least able to afford the costliest medicines. To do this we sacrifice profit for turnover giving up a significant percentage of profit. It is difficult for your accountants to justify offering 10% from \$20.00 pres-

cription purchase, when \$17.00 represents the cost of the medicine and the \$2.00 discount represents 25 or more of a fee that all reasonable surveys have proven to be inadequate. It is unrealistic for Medimet to expect pharmacists to give them the discount, incurring additional expenses of billing, waiting for payment and borrowing money.

Your plan is infringing upon my business, damaging a noble endeavor, and chiseling me out of a meager and less than reasonable profit.

I would find participation in your GE Pensioners program contrary to the dictates of my conscience and would hope that by now you would have begun work on a more realistic plan designed to better serve your pensioners. It should allow the quality medicines they need and the complete and necessary pharmacy services they deserve.

An answer would be appreciated.

Sincerely,

Jerome Block

## Editor's Note:

This letter was received by Dr. Ralph Shangraw in response to a question by the M.Ph.A.'s Industry Relations Committee regarding the inspection history of several drug companies. It is provided here for your information.

Dear Dr. Shangraw:

Your October 2, 1979 letter concerning inspectional history of several "generic" drug companies conveniently corresponds to similar interest by GAO auditors. They too were interested in allegations that smaller firms, generic in nature, were not being covered with the intensity or frequency as their "brand" counterparts. We simply have no evidence that this is factual. To the contrary, our records show inspectional coverage for CGMP compliance based on drug profile classes, i.e., ointments, tablets, injectables, to be equal to the coverage afforded the entire industry.

Following are listed the dates of the most recent inspection, and most recent "GMP" inspection, if different, as given in our profile system.

FIRM	LATEST INSPECTION	LATEST GMP INSPECTION (if different)
Barr Labs	12/12/78 — 2/9/79	same
Barre-National	1/9-11, 15-19/79	same
Bolar Pharm.	12/13-28/78	same
Chelsea Labs	7-79	same
Cord Labs	2/15/79 — 4/19/79	same
Danburys Pharm.	5/15/79	same
Federal Pharm.	1/22-23/79	same
Generic Pharm.	9/4-5/79	same
Halsey Labs	2-79	same
Heather Drug	8/23/79 et al	same
Ketchum Labs	12/1/78 — 1/16/79	same
Lannett	2/26/79 — 3/29/79	same
Mylan Pharm.	10/30-31/78	4/3-14/78
Premo Labs	6/26-28/79	same
Purepac (Drugs, Inc.)	7/23/79 et al	same
Reid Provident	10/23/78	same
Richlyn	6/19-26/79	same
West-Ward	3/1/79	same
Zenith	6/21-29/79	same

I trust that this information will satisfy your needs. If not, please feel free to contact me for additional information.

Sincerely yours,

T. E. Byers  
FDA



# Baltimore Banquet Tops 300



President Marvin Friedman (right) and his lovely fiancée Denise Green were among the over 300 people to attend the Annual Banquet held February 10th at the Blue Crest North in Baltimore.



Banquet Toastmaster George Voxakis (left) presents the gavel of office to 1980 Baltimore Metropolitan Pharmaceutical President Marvin Friedman.



Mrs. Ralph Quarles receives the Pharmacists' Help Mate Award from Banquet Grand Marshall, Charles Spigelmirre.

*Photos courtesy of Paramount Photo*



Outgoing BMAP President Ralph T. Quarles (left) receives a Special Recognition Award from Marvin Friedman for his contributions during 1979.



1980 BMAP Honorary President Walter Mills (left) from the F. A. Davis and Davis-Calvert Company receives the special award from President Friedman.

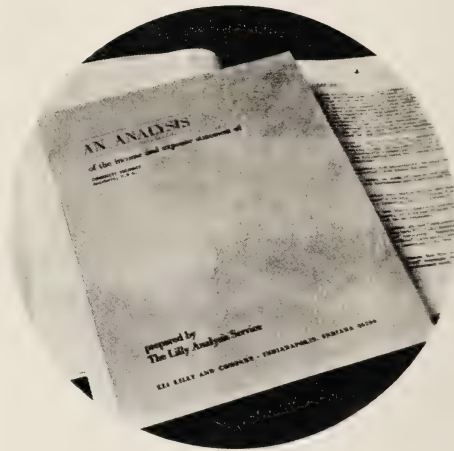
# R<sub>x</sub> For Profit



## **Lilly Digest**

An annual summary of financial operations of community pharmacies, arranged to allow comparison with any pharmacy's figures.

- Practical guide
- Standard accounting format
- Comparative reference

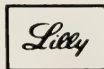


## **Lilly Analysis Service**

A detailed analysis available to individual pharmacy owners, with suggestions for improvements where indicated.

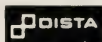
- Individually prepared
- Completely confidential
- No charge

No wonder nearly five generations of pharmacists have depended on



900934

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Indianapolis, Indiana 46206



**Dista Products Company**  
Division of Eli Lilly and Company  
Indianapolis, Indiana 46206

# Pharmacy Alumni Activate Local Chapter

Concerned pharmacy alumni from the metropolitan Washington, D.C. area have petitioned the Howard University Alumni Association, national organization, for a charter. On November 4, the Washington, D.C. Chapter was activated. It was recognized that a local chapter was needed for participation in those activities that were of a local concern, thereby eliminating the need to call national meetings. Provision for a Washington, D.C. Chapter was made in 1972, by amendment to the National Constitution (Article XIV) . . . "further, that such a chapter be established in Washington, D.C. in July, 1972 to carry out in conjunction with the National Organization, the aims and

objectives of its constituency".

One major concern is the lack of an up to date mailing list, consequently, we are conducting an alumni search. It is our hope to contact graduates from the College of Pharmacy and Pharmacal Science (COPPS) for the purpose of keeping them informed of college, university, and alumni activities. Secondly, the information provided will also be used to assist the Chapter in the evaluation of our alumni as candidates for college and university honors and awards.

Your cooperation in this project is most important, and is very much appreciated. Please direct inquiries to Dr. Kenneth Scott, COPPS, or call (202) 636-7288.

## The Maryland Commission on Women in Pharmacy



Elizabeth Morrison

Picture courtesy of Paramount Photo

The Maryland Commission on Women in Pharmacy held its first meeting this year on January 16th at the Kelly Memorial building. The speaker was Elizabeth Morrison, a financial underwriter and her topic was "Financial Planning." At this meeting the group was also consulted by Estelle Cohen from the APhA Task Force on Women in Pharmacy on how the influx of women will affect the profession and the public's view on women pharmacists.

The Delaware Women in Pharmacy have invited us to join them for a seminar on drug therapy in pregnancy and lactation which they will be cosponsoring with Hoechst-Roussel Pharmaceuticals from 9 a.m.-3 p.m. in Philadelphia on Sunday April 13, 1980. There will be four speakers and a luncheon is included. We are trying to arrange carpools for interested persons. Anyone interested please call Carla or Luisa at 484-6845.

We will also be cosponsoring a "Forum for Women" with the Delaware Valley Women in Pharmacy at the APhA annual meeting in Washington D.C. on Tuesday April 22, 1980 at 4 p.m. Final plans for the speaker have not been finalized as yet.

Dear Fellow Phi Delta Chi Alumnus,

The active Iota chapter, University of Maryland, School of Pharmacy, is interested in forming an active alumni association for Phi Delta Chi graduates.

Your support and interest is necessary to make the alumni chapter a viable organization.

Please fill in the following information and mail to:

**John Vakoutis**  
1109 Concordia Drive  
Towson, Md. 21204

Name \_\_\_\_\_ Year Graduated \_\_\_\_\_

Home Address \_\_\_\_\_

Business Address \_\_\_\_\_

Home Phone \_\_\_\_\_ Business Phone \_\_\_\_\_

Are you available for meetings: YES \_\_\_\_\_ NO \_\_\_\_\_

Give a brief statement of your expectations of a fraternity

alumni association: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



# Some of the best served Pharmacies in America are located here.

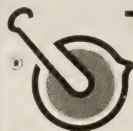


## This is Drug House territory!

If your Pharmacy is located in the greater middle Atlantic states, we're neighbors! Our divisions in Philadelphia, Harrisburg, Wilmington, Baltimore, and Johnstown serve these areas with prompt delivery of our full line of quality pharmaceuticals and health and beauty aids. We are a large multi-branch wholesaler and, you can rely on our substantial inventories and 150 years experience in drug and HBA merchandising. Because we inventory more, you can

inventory less. That's one way you can save money and have the products your customers want when they need them. Our management services give you "up-to-the-minute" techniques on inventory control, cash flow, pricing and other methods of managing your business for greater profits.

Call your local division today and find out how you too can become one of the best served pharmacies in America!



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Paul Hawbecker

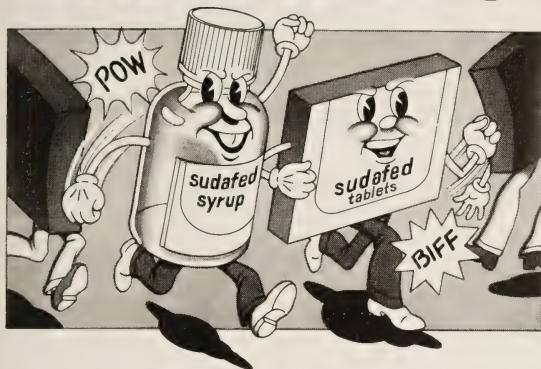
**Wilmington Division**  
(302) 655-7401  
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From 1975 through 1978, SUDAFED was the fastest growing cold product on the market.

In fact, last year SUDAFED sold more than 4,000,000 (24-tablet) boxes, 1,000,000 (100-tablet) bottles...plus 2,000,000 (4-ounce) bottles of syrup...all OTC.

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In drugstore sales of 24's and 100's tablets, SUDAFED is the third best-selling OTC cold product. (In fact, the 100-tablet size is now #1.)

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SUDAFED sells!...the statistics prove it. For you to make even greater profit from fast-selling SUDAFED all you have to do is recommend and prominently display it. That's right, just recommend and display it.

Give the fastest growing cold product the shelf space it deserves...and it'll sell itself.

Single-entity SUDAFED opens the nose without closing the eyes.



Sudafed 48's for even greater profit.

**sudafed®**  
(pseudoephedrine HCl)  
30 mg tablets/syrup

**DECONGESTION WITHOUT DROWSINESS**

\*Source: IMS America; based on drugstore sales of OTC Sudafed 24's and 100's.



Burroughs Wellcome Co.  
Research Triangle Park  
North Carolina 27709

## MPhA Signs Letter of Understanding

At its meeting of January 10, 1980, the Board of Trustees of the Maryland Pharmaceutical Association adopted a letter of understanding between the Association and the Maryland Society of Consulting Pharmacists. The Association is attempting to establish closer working relationships with all segments of pharmacy in the belief that unity of purpose is the only course for survival. This cooperation has recently been rewarded when the two organizations were successful in arguing for significant changes in Medical Assistance program regulations.

Between the Maryland Pharmaceutical Association and the Maryland Chapter or the American Society of Consulting Pharmacists.

This "Letter of Understanding" is entered into with the following objectives:

1. To foster and encourage cooperation and communication between the MPhA and the Maryland Chapter of the ASCP, while respecting the structural autonomy of each organization.
2. To create organizational relationships and cooperative activities emphasizing Pharmacy unity.
3. To facilitate the promotion and improvement of the practice of pharmacy in all practice settings.

Therefore, Both organizations agree to:

1. Cooperate in efforts affecting legislation and regulations of mutual professional concern.
2. Encourage long term care pharmacists to participate through membership in both the MPhA and the Maryland Chapter of the ASCP.
3. Exchange liaison representatives to each organization's governing Board.
4. Exchange of communications concerning issues in long term care pharmacy; including the submission and publication of articles in the *Maryland Pharmacist*.
5. Continue to study the feasibility of a more formal relationship between the MPhA and the Maryland Chapter of the ASCP.
6. Continue to seek additional areas for cooperative and unifying activity.



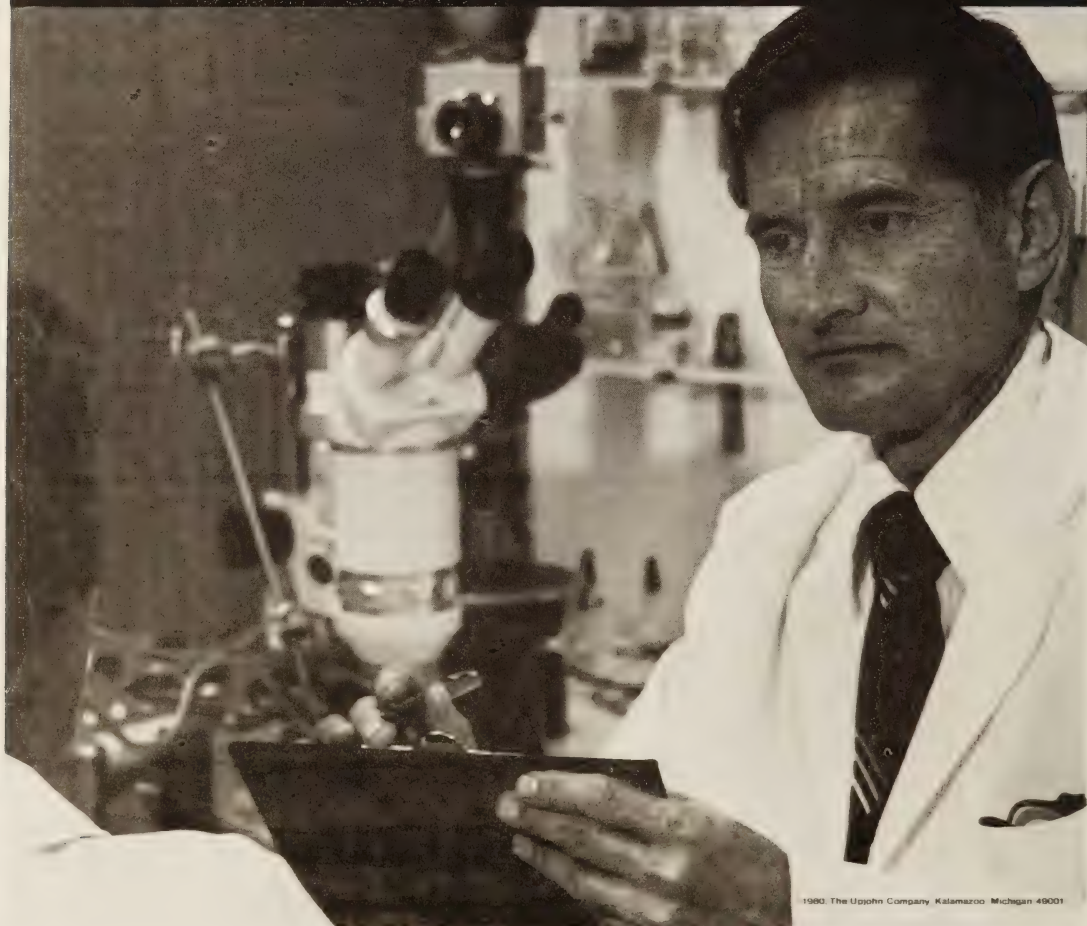
As a young pharmacist, Sherm Kramer was fascinated by drug compounding. Now at Upjohn as a Research Head, Pharmacy Research, Sherm directs pharmacists/scientists who develop every aspect of a new drug—purity, potency, bioavailability, shape, color, shelf life. Then they test it, prove it, and transfer their data, experience and confidence for scale-up to commercial production.

You could say Sherm is still compounding drugs. But, unlike the old druggists he admired so much, his work may take from 6 to 15 years per drug!

Sherm is one of 376 pharmacists at Upjohn who are proud of their role as members of the health care team—and their partnership with your side of the counter.

**Upjohn**

## **MEET SHERM KRAMER R.Ph., Ph.D., ...DRUG COMPOUNDER PAR EXCELLENCE!**



1980. The Upjohn Company, Kalamazoo, Michigan 49001



## Annual Report on Insurance Savings

The firm of Mayer and Steinberg presented the following report to the Board of Trustees of the Maryland Pharmaceutical Association at its meeting of February 7, 1980:

### Annual Report of the M.Ph.A. Worker's Compensation Safety Group

Listed below are the amounts of dividends paid to pharmacy owners as the result of the 21% dividend declared by the American Druggists Insurance Company.

1978 — \$22,055

1979 — \$25,984

Participation in this plan has increased because of the constantly increasing payrolls resulting in higher premiums. This in turn results in larger savings to your members.

The 21% dividend is by far the largest compensation savings offered by any such plan in the state.

We hope to be of service to more of your members in the future.



Alex Mayer (left) and Norman Steinberg (far right) of the firm of Mayer and Steinberg, present M.Ph.A. President Ronald Lubman with the annual report.

## The Drug House Contest Winner



Pictured left to right are: Allen Turner, Division Manager (Balt.); Martin Deming, owner of Ferndale and Cross Keys Pharmacies; Gil Kohlhafer, Drug House Representative; and Gary McNamara, Sales Manager (Balt.)

The Drug House, Inc., an Alco Standard Company with five wholesale drug divisions in Philadelphia, Pennsylvania; Wilmington, Delaware; Harrisburg, Pennsylvania; Johnstown, Pennsylvania and the newest division in Baltimore, Maryland, launched a Green Book Promotion in the summer of 1979.

This represented a variety of merchandise, including everyday as well as Christmas specialty items. With each order placed by Drug House customers, tickets were given proportionate to the dollars purchased. These tickets were placed in a drawing at the Year End Sales Meeting with prizes awarded in each representative's territory and one Grand Prize awarded to one of the sales territories.

The recipient of the Grand Prize was Mr. Marty Deming of Ferndale and Cross Keys Pharmacies serving the Ferndale-Glen Burnie area and the Village of Cross Keys on Falls Road in Baltimore.

The Drug House is looking forward to a bigger and better program for 1980.

## Anne Arundel County Association Banquet



The Anne Arundel County Pharmaceutical Association Annual Banquet was held on January 20, 1980. Robert Harnish (left) and Roberta VanDuzer (right) received a special recognition award from Past President Nathan Schwartz

Photos courtesy of Paramount Photo



The new officers of the Association pose shortly after installation. They are: (left to right) Robert Harnish, Treasurer; Lee Ahlstrom, President; Geraldine Epley, First Vice President; Dean William Kinnard, who installed the officers; Jack Miller, Second Vice President; and Roberta VanDuzer, Secretary.

With more than 10 million chlordiazepoxide HCl scripts per year...

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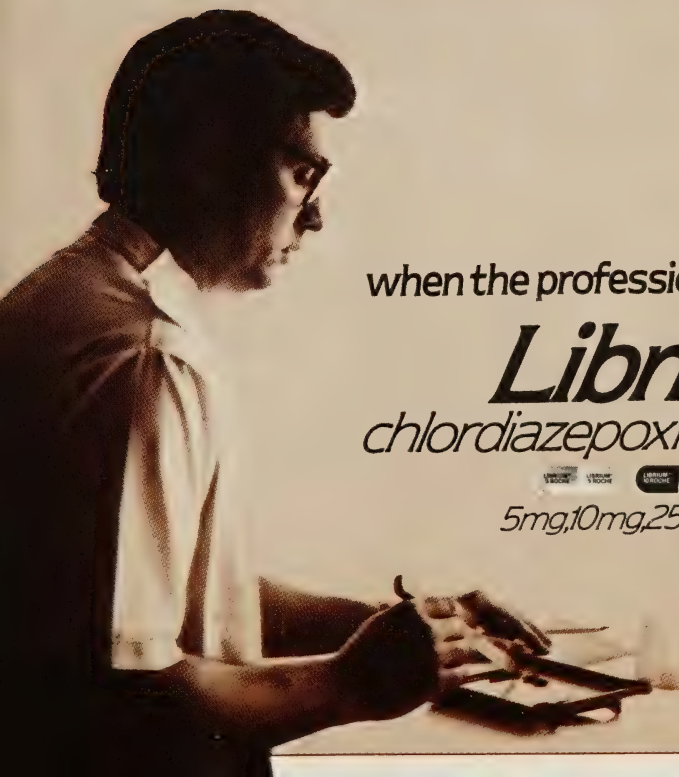


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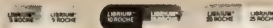
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Please consult complete product information, a summary of which follows:

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**Warnings:** Warn patients that mental and/or physical abilities required for tasks such as driving or operating machinery may be impaired, as may be mental alertness in children, and that concomitant use with alcohol or CNS depressants may have an additive effect. Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported.

**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Usual Daily Dosage:** Individualize for maximum beneficial effects. **Oral—Adults:** Mild and moderate anxiety and tension, 5 or 10 mg t.i.d. or q.i.d.; severe states, 20 or 25 mg t.i.d. or q.i.d. **Geriatric patients:** 5 mg b.i.d. to q.i.d. (See Precautions.)

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## APhA Offers New CE Program on Geriatric Drugs

The American Pharmaceutical Association (APhA) recently published a new continuing education program for pharmacists and other health professionals.

The program, *Rational Geriatric Drug Therapy*, is designed to be conducted as a workshop to increase interdisciplinary communication while reviewing and using knowledge of drug therapy. *Rational Geriatric Drug Therapy* is an educational program to help pharmacists play a significant role in promoting public health, particularly of the elderly.

This new CE program provides all of the tools needed to conduct an interdisciplinary conference, including guidelines for program planners, guidelines for workshop faculty, a 146-page participant workbook containing three case studies and a reference on normal laboratory values and medical terms. *Rational Geriatric Drug Therapy* is ideal for programs conducted by state and local professional associations and provides a unique vehicle for initiating cosponsorship of a CE program with organizations of several health disciplines.

The program was pretested in three prototype workshops under contract with the Department of Health, Education and Welfare.

APhA is the national professional society of pharmacists with more than 55,000 members. The Association offers many educational opportunities through its long term care publications and its Section on Long Term Care, which is comprised of pharmacists who serve the needs of geriatric patients.

### Order Desk

APhA, 2215 Constitution Ave., NW, Washington, DC 20037

#### Rational Geriatric Drug Therapy:

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- ☐ Please send complete program materials for \_\_\_\_\_ participants for a program to be held on \_\_\_\_\_.
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Program planners: Allow 4-6 weeks for delivery of materials. Orders totaling less than \$50 must be prepaid.

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## Classified Ads



Classified ads are a complimentary service for members.

### Available from the MPhA Office

- Notification for the patient under the Drug Product Selection Law.
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  - Information on the Blue Cross/Blue Shield Major Medical Health Insurance Program
  - The Association's Employment Clearinghouse, helping pharmacists and employers find one another.
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- For these and many other services, contact Sharon at the MPhA Office. (301) 727-0746.

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## calendar



March 13 (Thurs.) — SAPHa Computer Exhibition, Holiday Inn — Pikesville

March 23 (Sun.) — AZO Berman Seminar, Holiday Inn-Belmont, 9:30 a.m.

March 27 (Thurs.) — MPhA Board of Trustees Meeting, 4 p.m., Meushaws Inn

March 27 (Thurs.) — MPhA REGIONAL MEETING, MEUSHAWS, 6 p.m.

March 30 (Sun.) — AZO Joint Dinner Meeting, Country Fair Inn

April 19-24 — APHA Convention, Washington, D.C.

May 13 (Tues.) — Balassone Lecture. Speaker — Ray Gosselin

June 15-19 — MPhA CONVENTION — CAROUSEL, OCEAN CITY, MD.

June 20-22 — MSHP Annual Seminar — Ocean City, Md.

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# THE MARYLAND PHARMACIST

Official Journal of  
the Maryland  
Pharmaceutical  
Association

APRIL 1980

Vol. 56

No. 4



Anxiety

Abstracts

Resources for Continuing Education

**M.Ph.A. Convention  
June 15-19, 1980  
Ocean City, Maryland**

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APRIL, 1980

VOL. 56

NO. 4

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SHARON SPIES, *Assistant Editor*  
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The Maryland Pharmaceutical Association has just concluded another successful legislative year and a great deal of credit belongs to the Membership Committee and Chairman Milton Sappe. After many years of work, the Budget Bill which passed this session of the Maryland General Assembly, included a \$.40 increase in the Medicaid Dispensing fee. On July 1st the fee will raise from \$2.55 to \$2.95 per prescription; our largest single increase ever. I believe this has been the result of constant pressure from all of us in justifying our claims for a higher fee combined with the Myers and Stauffer Dispensing Fee Survey which was undertaken at the Association's request two years ago. Along this same line, I recently had a telephone conversation with Group Services Incorporated in which they indicated that their dispensing fee will increase to \$2.50 on June 1st.

As a result of a resolution which was adopted at last year's Annual Convention, we sought to repeal the mandatory price poster law in this year's legislative session. Although the bill was defeated, we were encouraged by the progress and responsiveness of the legislators to our argument. I think we stand a good chance of success in next year's session.

Other bills that we followed included a product identification bill requiring an imprint on all capsules and tablets. It was defeated. We supported legislation which would have required all drugs manufactured in Maryland to have an approved NDA or ANDA number when required by the FDA. Unfortunately, this bill was also defeated. Drugs classified as "ineffective" by the FDA will not be covered by the Medicaid program under another bill which passed the legislature. Another bill which passed allows the Secretary of the Department of Health and Mental Hygiene, after consulting with the Board of Pharmacy, to authorize a dispensing physician to receive the Medicaid Pharmacy dispensing fee if there is no pharmacy within ten miles. We are continuing to oppose this bill.

I think that each of us needs to recognize how important the Association's legislative efforts are to Pharmacy. When we work together within the Association our progress is ensured.

A handwritten signature in dark ink, appearing to read 'Ronald Q. Lubman'. The signature is fluid and cursive, with a large, stylized 'L' at the end.

RONALD LUBMAN



## ANXIETY

Anxiety is an unpleasant mood of tension and apprehension, closely akin to fear. While fear is a sharply focused emotion stimulated by a specific situation, however, anxiety is a less precise worry about unknown dangers or difficulties. In certain circumstances, anxiety may spur people to respond to challenges admirably. It becomes a medical problem when it is excessive, inappropriate or *without apparent cause*.

When anxiety becomes a medical problem, it can be physically debilitating and psychologically devastating, preventing its victims from functioning at the most fundamental levels. All people suffer anxiety at some time in their lives. Between two and four percent of people in the United States suffer from severe, or incapacitating, anxiety. Anxiety disorders also afflict an estimated 10 percent of heart disease patients.

Anxiety disorders produce physiological responses to fear without apparent or adequate stimulus. These responses affect the endocrine and nervous systems and various organs in a manner similar to actual fear or emotional excitement.

### CAUSES OF ANXIETY

Conflicts, either conscious or unconscious, in which an action is required but in which the correct action is difficult to discern are frequent causes of anxiety. Why certain people are vulnerable to certain kinds of conflicts, and what the underlying cause for susceptibility to anxiety may be, are questions that cannot be answered at the present time.

### CLASSIFICATION AND DESCRIPTION OF ANXIETY DISORDERS

The major forms of anxiety disorders are *phobia*, *panic attacks*, *obsessive thoughts*, *compulsive drives* to perform specific acts and *generalized states* of constant anxiety. Children may also suffer from excessive shyness and from chronic anxiety states unique to childhood.

I. *Phobias* have drive perhaps one percent of the population to seek psychiatric help. The three basic types of phobia are *agoraphobia*, *social phobia* and *simple phobia*.

A. *Agoraphobia*, literally "fear of open spaces" in Greek, is the fear of being alone or isolated without help. The agoraphobic avoids unfamiliar places, being alone, traveling, crowded places and open spaces. These situations can result in panic attacks and may be so severe that some patients cannot leave their homes alone. This phobia affects five percent of the population at some time in their lives. Women are affected more often than men. The disorder usually appears in late adolescence or the early twenties.

B. *Social phobia* is the exaggerated fear of performing certain activities poorly and experiencing shame before other people. The anxiety may actually lead to poor performance, thus reinforcing the phobia. Speaking, writing and eating in public are among the most common activities feared. This disorder affects men more than other phobias. Social phobias begin in late childhood or early adolescence and may be an

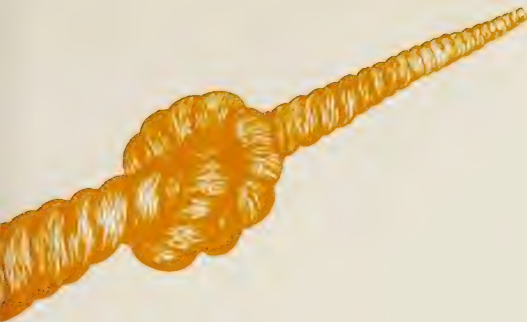
# Anxiety

underlying cause of drug or alcohol dependence.

C. *Simple phobias* are the avoidance of specific objects or situations to an extent that is far out of proportion to any danger they may represent. Common simple phobias include fear of specific animals, such as insects or reptiles, heights or enclosed spaces. Patients are further distressed by their intense need to avoid their phobic stimulus and this avoidance interferes with normal functioning. Exposure to, and sometimes anticipation of, the phobic object can cause a panic attack. Simple phobias afflict more women than men and are not related to agoraphobia or more general psychiatric disorders.

II. *Panic disorder* is characterized by occasional or constant attacks of panic without apparent cause. Since the attack instills a feeling of helplessness in the victim, a fear of leaving home results and the disorder becomes similar to agoraphobia. Panic attacks differ from phobias that result in panic because the former are not caused by a particular stimulus and cannot be predicted. The symptoms of panic attack, in addition to a sense of dread, are breathing difficulty, pounding or racing heart, chest pain or discomfort, choking or smothering sensations, dizziness, sweating, trembling, hot and cold flashes and tingling or numbness in the limbs and around the mouth. Feelings of personality change or unreality of surroundings, accompanied by a fear of dying, becoming insane or taking an uncontrollable action, commonly develop. Panic disorder can be confused with heart disease, sedative or drug withdrawal, hyperthyroidism and low blood sugar. It usually begins in late adolescence or early adulthood, affecting more women than men.

III. *Obsessive-compulsive disorder* is characterized by recurrent and involuntary obsessions and/or compulsions. *Obsessions* are persistent ideas, thoughts, images or impulses that seem to intrude on the patient against his will from outside the normal sphere of consciousness. *Compulsions* are acts that a patient knows are senseless but feels compelled to perform; the patient experiences a mounting anxiety until the act, as a ritual, is done. Considerable anxiety may be experienced during episodes of obsessive thought, but not during the performance of the ritual act, which is a release. The obsessive-compulsive activity may produce overt anxiety only if the patient resists or is prevented from performing the ritual act. Obsessive thoughts are often



violent and tinged with filth or self-doubt. Common compulsive acts are hand washing and touching, counting or inspecting particular objects. It is important to differentiate between obsessive-compulsive disorder that results from anxiety and that which is a symptom of psychotic disease, such as schizophrenia. Obsessions and compulsions based on anxiety disorders afflict men and women equally, appear in adolescent or early adulthood and tend to afflict people of higher than average intelligence and social strata.

IV. *Generalized anxiety disorder* is characterized by a period of anxiety lasting more than six months without the specific symptoms that suggest a phobia, panic or obsessive-compulsive disorder. Its symptoms, while varying among individuals, fall into four categories:

- A. *Motor tension*, resulting in "the shakes," jitters, muscular aches and an inability to relax despite a feeling of fatigue;
- B. *Signs of nervousness* that include excessive sweating, pounding or racing heart, clamminess, dizziness, tingling in the extremities, stomach distress, frequent urinations and bowel movements, diarrhea, hot and cold spells, a "lump in the throat" and a high resting pulse;
- C. *Continuous worrying* about hypothetical events such as a bad illness or event happening to the patient or a loved one;
- D. *Vigilant behavior*, causing the patient to be "on edge," impatient or irritable and making concentration difficult.

Patients suffering generalized anxiety disorder frequently cannot sleep, startle easily, have a furrowed brow and show sighing respirations. They also display a characteristic brain wave pattern on electroencephalography. This condition most often develops in young adulthood, sometimes progresses into a major depressive disorder and may cause the patient to resort to illicit drugs, alcohol, tranquilizers or sleeping pills.

V. *Childhood anxiety disorders* arise in part from frightening experiences and unresolved conflicts of feelings and impulses within the child's mind and in part from communications from adults. They also stem from intensely competitive learning environments in school and to a lesser extent from what children view on television. Almost all children exhibit characteristic emotional behavior and display characteristic fears at

particular ages. Normally they are outgrown during development. Fear of new people and places, sleep disturbances, phobic behavior and obsessional games, such as avoiding sidewalk cracks, are typical phases through which children pass as they grow into adulthood. The most common childhood anxiety disorders are *separation anxiety*, *shyness* and *overanxiousness*.

- A. *Separation anxiety* is diagnosed in a child who has a persistent fear that something bad will happen to himself or a loved one, who resists separation from home or family members or who suffers constant discomfort away from home, to which he yearns to return. It often appears as a refusal to attend school at age 11 or 12.
- B. *Shyness disorder* may be diagnosed in children older than age 2½ years who avoid contact and familiarity with strangers so strongly that social relationships are hindered or never formed. Avoidance of a person persists even after long periods of contact.
- C. *Overanxious disorder* is usually diagnosed after three years of age in children who worry constantly about the future, lack confidence in their own abilities, are insomniac, have nightmares or suffer from stomach and head pain without medical cause.

#### TREATMENT AND MANAGEMENT OF ANXIETY DISORDERS

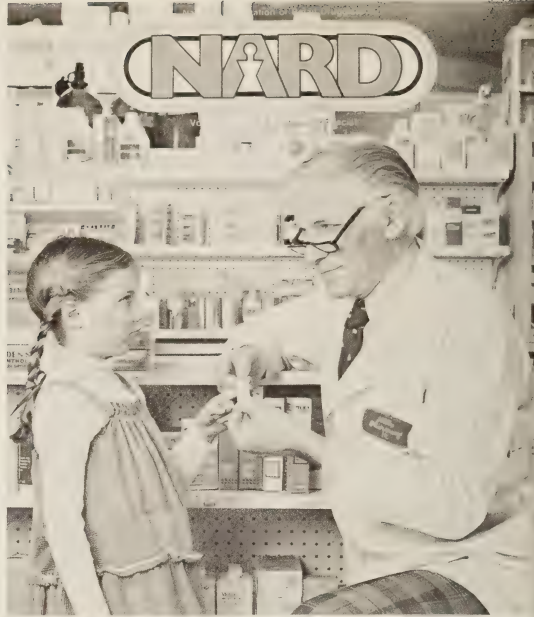
Treatment of anxiety disorders includes both psychiatric and drug therapies and works to relieve both the symptoms of anxiety and, if possible, the underlying cause. Physical examination and laboratory tests to eliminate the possibility of organic disease, especially cancer, endocrine and neurologic disease, should be performed as part of the initial diagnostic evaluation. The patient should be encouraged to expand his activities and should be told that his fears are not "childish." Medications used include barbiturates, benzodiazepines, meprobamate and, occasionally, antipsychotic drugs.

- I. *Phobias* are generally approached with supportive and behavioral, or deconditioning, techniques. In *supportive therapy* the patient is instructed in overcoming the phobia using methods such as hypnosis and relaxation training. Antianxiety drugs are sometimes useful. Behavioral therapy is most useful in dealing with simple phobias, which respond to *desensitization* and *implosion*. In desensitization the patient tries to imagine the feared situation while in a relaxed state so that he will come to associate the phobic object with a feeling of well-being. Conversely, implosion defuses the object of its frightening aspect by repeatedly forcing the patient to conjure the worst anxiety-provoking situation imaginable until it inspires no fear. Agoraphobia is particularly resistant to treatment.
- II. *Panic disorder* is treated according to the personality of the patient and the scope of any underlying psychological problems. *Psychoanalytic or insight-oriented therapy* over a long period may help the patient recognize repressed, unconscious conflicts, experience the associated emotions and resolve the conflict, thus





NARD's Legislative Conference, March 3-5, 1980 in Washington, D.C., saw pharmacy leaders from throughout the United States press Congress on current issues. In this picture from Maryland are Richard Parker and Marvin Friedman.



M.Ph.A. Board of Trustee Member William Hill was featured on the March, 1980 cover of the NARD journal. His picture was also used on a poster carried in the journal which promoted pharmacy services.

eliminating the anxiety. *Supportive and behavioral therapy* may serve to uncover the situations in the patient's life that provoke panic attacks and then enable the patient to cope with those situations calmly. Relaxation techniques, hypnosis and antianxiety drugs are sometimes employed. Demonstrating that overly rapid breathing produces or aggravates many symptoms of panic attacks often helps the patient control his attack through reassurance.

- III. *Obsessive-compulsive disorders* are amenable to treatment if their onset is recent or associated with intense emotional stress and if the environment and mental state of the patient are otherwise healthy. Treatment renders almost 30 percent of patients symptom-free and almost 40 percent improved. The remaining 35 percent, however, show no effect or become worse after treatment. *Psychoanalytic or insight-oriented therapy* may help the patient to discover and cope with aggressive or sexual impulses that give rise to the obsessions and compulsions. *Supportive psychotherapy* may help the patient and family function in daily life. *Hospitalization* during crises may help some patients by protecting them from stress. *Behavioral therapy* can help the patient realize that if the ritual act demanded by his anxiety is not performed no harm will come. Conversely, a therapist may perform a "forbidden" act and encourage the patient to do the same, demonstrating that no harmful consequences follow.
- IV. *Generalized anxiety disorder* is also treated with both psychologic and antianxiety drug therapies. Often reduction of symptoms by itself is of therapeutic benefit.

*Psychoanalysis* or another long-term psychotherapy may aid patients whose anxiety arises from deeply ingrained conflicts. Short-term therapies may help if the emotional problem is a simple one. *Supportive therapy* may serve to reduce symptoms, and *behavioral therapy* may help the patient to cope with life situations productively through relaxation training and hypnosis. Sensory feedback therapy, in which the patient sees or hears his own brain wave patterns or the electric activity of his muscles and learns to control them through his mental state, is a promising approach that is still in its infancy. Unlike behavioral therapy and other forms of psychotherapy, feedback therapy permits the evaluation of the patient's progress using objective measurements of body activity. Antianxiety drugs are useful adjuncts to every therapy in generalized anxiety disorders.

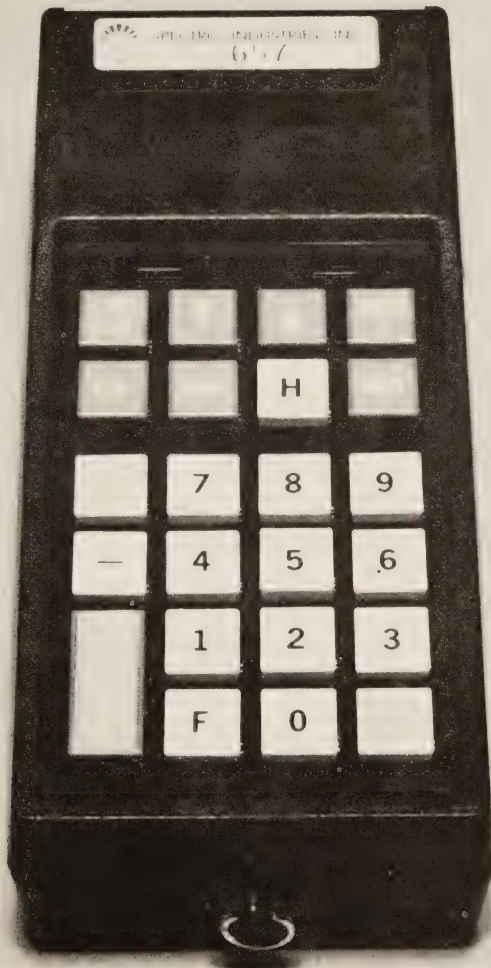
- V. *Childhood anxiety disorders* are more responsive to psychotherapy and psychological counseling than are anxiety disorders in adults. The outlook is most favorable when the disorder appears late in an otherwise normal childhood and stable environment. Children who have seemed anxious from infancy and who live with parents displaying anxiety are prone to relapse.

#### FOR FURTHER INFORMATION

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## **I am a custodian of medical information**

My library is a ready source of drug knowledge.

My files contain thousands of specific drug names and tens of thousands of facts about them.

My records include the medication and health history of entire families.

My journals and meetings report advances in pharmacy from around the world.

## **I am a companion of the physician**

I am a partner in the case of every patient who takes any kind of medication.

I am a consultant on the merits of different therapeutic agents.

I am the connecting link between physician and patient and the final check on the safety of medicines.

## **I am a counselor to the patient**

I help the patient understand the proper use of prescription medication.

I assist in the patient's choice of nonprescription drugs or in the decision to consult a physician.

I advise the patient on matters of prescription storage and potency.

## **I am a guardian of the public health**

My pharmacy is a center for health-care information.

I encourage and promote sound personal health practices.

My services are available to all at all times.

**This is my calling • This is my pride**

*Author Unknown*

# AMERICAN NURSES' ASSOCIATION and AMERICAN SOCIETY OF HOSPITAL PHARMACISTS

## Guidelines for Collaboration of Pharmacists and Nurses in Institutional Care Settings

This document describes the benefits and responsibilities of pharmacy and nursing collaboration within the institutional setting. The value of this collaborative effort is reflected in the quality of patient care. The responsibilities of the nurse and the pharmacist are to their respective professions; their accountability is to their patients. As members of the health care team, nurses and pharmacists collaborate with other professionals and members of other disciplines. The complexity of drug therapy requires consultation between nurses and pharmacists on a regular basis.

Pharmacists are well acquainted with the complex problems associated with drug therapy and possess knowledge concerning medications that is useful to nurses in providing patient care. Pharmacists' intensive basic and continuing education in drug therapy, practical application of this knowledge, and presence in institutions make them the appropriate health professional to supply drug information. Since nurses are responsible for direct patient care and are in close contact with the patient, they can provide valuable information regarding beneficial and adverse responses to drug therapy.

In order to promote the exchange of information between nurses and pharmacists, the following guidelines are proposed:

1. Orientation for nurses and student nurses to the institution should include introduction to the pharmacy so that the available services can be discussed and demonstrated.
2. Orientation for pharmacists and pharmacy students should include introduction to a patient care unit so that its services can be discussed and demonstrated.
3. Collaboration between the nurse and the pharmacist should occur on a regular basis whenever either professional is developing a program to which the other can contribute. Interprofessional collaboration should also occur whenever the perceived roles of the professionals overlap, e.g. in patient education, monitoring adverse drug reactions, cardio-pulmonary resuscitation, nurse-pharmacist rounds in critical care areas, and nursing care plans.

Nurses equipped with adequate drug information and knowledge of the patient are able to administer drugs

properly and detect the occurrence of desirable or undesirable drug effects.

It is important for the pharmacist to work in collaboration with the nurse when medications are administered. The following are examples of information that should be provided to the nurse by the pharmacist:

- Information on new drugs
- Information on investigational drugs used in the institution
- Drug side effects and therapeutic risks
- Contraindications to particular drug therapy
- Compatibility and stability of drugs, including intravenous admixtures
- Drug computations
- Drug metabolism, excretion, and blood level data (and likelihood of a cumulative effect)
- Drug interactions (including drug/drug, drug/food, and laboratory test modifications)
- Effect of patient age and pathophysiology on drug action

Drug information services should include the following:

1. A pharmacist should be available on site or on call 24 hours a day to provide drug information when needed. It is important that nurses have sufficient information to instruct patients in the use of their medications. Telephone communication should be used only if personal contact in the patient care area cannot take place.
2. The pharmacist should consult with the nurse, preferably by personal contact, in regard to drugs prescribed for specific patients. The information exchange is best provided in the patient care area, where the pharmacists can obtain patient data from other professionals, the patient, and the patient's record, as well as from the nurse. The pharmacist should record information that is important to the patient's medication regimen in the patient's record. Specific allergies to drugs should be highlighted on the patient's record.
3. Drug information bulletins and newsletters compiled by pharmacists should be distributed to the nursing staff.

*(Continued on next page)*



# Computer Consulting Available

The firm of PS Associates of Baltimore, Maryland has been formed to offer the pharmacist an objective appraisal of his computer needs, advice on selecting computer hardware and software and assistance in implementing computer-based pharmacy systems. In addition to answering the question of whether any computer system is desirable for a particular pharmacy, the firm, consisting of pharmacists, administrators and computer specialists is a position to offer consultation on the choice of hardware and pharmacy-specific software as well as to provide custom software when necessary.

In making decisions about acquiring a computer system, the typical community pharmacist encounters a number of problems. Most notable among these is the massive amount of information on pharmacy computer systems which exists in a variety of places and is often relatively inaccessible. In order to make an informed choice, the pharmacist will often look to several computer system vendors, each of which will mainly provide information on his particular system. Thus the pharmacist perceives that he is left with one or two relatively inflexible choices; any one of which will require a substantial capital outlay either through a lease or a purchase of hardware and software. On a cost-benefit basis, the pharmacy owner or manager is often unable and most probably too busy to acquire the requisite information and expertise to assess all possible combinations of computer systems which might best meet his particular needs.

Computer systems presently on the market offer a wide variety of features at an associated wide range of costs. Features are often marketed which would certainly be "interesting" but in actuality bear little relationship to the individual pharmacist's needs based on the nature of his practice or the size of the business. Computer technology has also advanced so rapidly that an on-line, remote processing system is no longer the only basic type of pharmacy system available. The advent of the mini- and microcomputer has brought a new dimension to business computerization.

Furthermore, even the pharmacy that already has a computer system may find itself in the position that it would like some small change in the function of its computer system to meet its unique needs. However, most computer system vendors are not interested in modifying their systems to meet the needs of a single pharmacy. Thus until recently, the pharmacist's only options were either to do it himself or forget it. The pharmacist now has a third choice in that custom software modifications are available to meet the unique needs of pharmacy, through the services of skilled, independent programmers and systems analysts.

PS Associates offers services to meet all these needs. The firm cites as its chief advantage its knowledgeable staff which is able to provide objective economic analyses and consultation without the pressure of a sale or lease of equipment. In addition, when custom

software applications are required, the firm stands ready to develop them for the individual pharmacy.

If interested in the services of PS Associates, please contact them at 318 Overbrook Road, Baltimore, Md. 21212 or phone (301) 377-9169.

## ASHP Meets in Philadelphia

WASHINGTON — Have you ever wondered whether newer data and information are available after a researcher's study has been published in the literature? Do you believe you would benefit from reports on how practitioners have successfully implemented new services within their departments? Are you interested in sharing your practice innovations with your colleagues?

If the answer to any of these is "yes," then Philadelphia is the place to be from June 15-19 when the American Society of Hospital Pharmacists (ASHP) conducts its annual Summer Seminar.

The Summer Seminar, a series of 15 "how to" seminars and other unique educational sessions, is a part of ASHP's new quarterly meeting schedule which also includes two National Institutes (in March and August) and the annual Midyear Clinical Meeting. This year's Summer Seminar will be held in conjunction with the 12th Annual Hospital Pharmacy Assembly of the Pennsylvania Society of Hospital Pharmacists.

Headquarters for the 1980 Summer Seminar will be Philadelphia's Fairmont Hotel.

The Summer Seminar, designed to focus on the practical applications of hospital pharmacy, is expected to draw hospital pharmacists, residents and students.

In addition to the 3-hour seminars featured during the five-day program, several unique sessions will be offered, including:

- *Pharmacy Practice Updates*, designed to bring you up-to-date on new findings on previously published research.

- an *Idea Exchange Session*, an opportunity to share your successes with your colleagues and to look for some answers to some of your own practice problems.

- a *Discussion Forum*, with panels of recognized experts leading the discussion on issues critical to hospital pharmacy.

In addition, practitioner and resident poster sessions, an Industry Exhibit Program, an Industry Theater, a Film Theater and ASHP's popular Personnel Placement Service will be offered. A June 16 Opening Session will kickoff the program.

The annual meeting of the Special Interest Group (SIG) Cabinet will be held on June 13-14 in conjunction with the Summer Seminar.

Registration fee for the Summer Seminar is \$140 for members of ASHP and the Canadian Society of Hospital Pharmacists (CCHP) and \$190 for nonmembers. Reduced fees are offered for hospital pharmacy residents (in ASHP and CSHP accredited programs) and fulltime undergraduate and postgraduate pharmacy students.

For more information, contact: ASHP, 4630 Montgomery Avenue, Washington, D.C. 20014.

should be made in the development of programs for patient education. Counseling, teaching, and informing patients on their drug therapy should be a part of the patient education program in all institutions.

Communication among health professionals should begin during their educational year. Pharmacy and nursing organizations should offer periodic joint continuing education programs that provide drug information and programming on patient education and other areas where these two professions can share information. As fellow professionals, nurses and pharmacists should strive toward the common goal of quality patient care.

Approved by the Joint Committee of ANA/ASHP, February 27, 1979; ASHP Board of Directors, April 21, 1979; and ANA Congress for Nursing Practice, July 16-18, 1979.

### References

1. The Hospital Pharmacist and Drug Information Services, American Society of Hospital Pharmacists statement approved by Board of Directors and House of Delegates in 1968.
2. Drug Information: Literature Review of Needs, Resources, and Services, DHEW Publication No. (HSW) 72-3013 1972.

4. Each nursing unit should be provided with reference material on drugs, e.g. *American Hospital Formulary Service*, and the staff should be instructed on the efficient use of these resources. A current formulary, accessible in the patient care area, should be provided and should contain information about drugs used in the institution.
5. Pharmacists should participate with nurses and physicians in review of patients' medications in relation to patient need, therapeutic duplications, and possible drug interactions. This can be done either by making rounds or jointly reviewing records, including the drug history. The pharmacist should maintain a drug profile, which can be useful in this review.
6. A program of continuing education on drug therapy should be provided by pharmacists in the institution. New information on drugs and information on new drugs should also be provided.

Pharmacists and nurses can both be involved in providing patient education. A collaborative team effort

# Communication — is the Key to BMPA Future

Fellow pharmacists, distinguished guests, and all of the other friends of pharmacy here tonight — thank you and good evening. You know — there is an old expression “Nothing ever really changes”.

I see the start of this new decade as the time at which we — the pharmacist, must be completely aware of all of the changes taking place in pharmacy and be involved in shaping their form and direction. Government involvement is an accepted fact in the health care delivery system in our country today and its presence will be increasingly felt in Pharmacy, with the expansion of medicare to cover home health care and pharmacy services imminent, and certainly some form of national health insurance just over the horizon of this year's election. Also in the area of private third party prescription plans a wider coverage of the non-medicare and non-medicare population can certainly be expected, whether through employer or union sponsorship.

The public has also come to expect more from us professionally. How many times has a patient said to you . . . “I really didn't want to bother the doctor, but could you explain this to me?” . . . Certainly it occurs most often and we have to be prepared to sell ourselves professionally in such situations.

Changes in the retail aspects of our business have been just as dramatic. New distribution systems, new wholesaling and pricing concepts are constantly being offered. Co-op buying and advertising are often essential to the survival of today's independent businessman. I could go on and on with examples of the changes that affect all of us, but I would like to offer a one word solution to meet this challenge of the '80s — **COMMUNICATION**.

First, communication among pharmacists themselves — the exchange of information and ideas is essential. And along with that our own individual efforts to increase our professional knowledge to better serve our patients.

Second, communication with government agencies and officials. This can be accomplished via liaison committees through or associations and also through direct individual contact with our elected and appointed officials. As you all know this has been an area of primary concern to me over recent years and I can say most emphatically that progress has been made. As a prime example of this I would cite that



BMPA president Marvin Friedman delivered this speech at the annual BMPA Banquet held February 10, 1980 at the Blue Crest North in Baltimore.

in this year's proposed Health Department budget our professional dispensing fee will show the largest increase in history and if approved will give us here in Maryland one of the top five such fees in the country. This didn't happen by accident, but of course is the result of a unity of purpose on the part of many individuals acting through your associations and as individuals — with communication as the key.

Third, communication with the public in which we must constantly sell ourselves professionally and as an integral part of the community in which we do business. Yes — Mr. Speigelmeier — Good public relations can be an effective tool in what must be our constant effort to communicate with the public.

Ladies and gentlemen, *The key is to act not to react. It is time for Pharmacy to stop reacting to the change of which I spoke, as we have in the past, but to act to make that change positive for the future.* It is to that end that I dedicate myself to work as your president.



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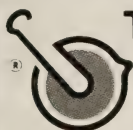


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(814) 288-5702  
Neil Smith



## A Good Question

Dear Mr. Banta,

I am a pharmacist who is tremendously concerned with what appears to be the lack of unification and political force exhibited by the associations representing my profession.

I am presently registered in Massachusetts and have developed a strong interest in improving the status of Pharmacy through political strength. I am in the process of offering my services to the M.S.P.A. and would like to begin with what I consider to be a basic element in any political cause; the fostering of enrollment in the association.

As a newly registered Pharmacist I am not well versed in the politics of associations. It is no secret that you and your organization are leaders in the field and it is for this reason that I have written you. I would like to appeal to you for any information relevant to the general theme of increasing the political stature of Pharmacists on a state or national level. Information involving the needs of pharmacists, how to assess these needs, techniques for increasing enrollment and your own personal philosophies would be much appreciated.

Thank you for your time. If you're interested, I would be glad to keep you posted on the results of my work. I look forward to hearing from you.

Sincerely,

David S. Karlin, R.Ph.

---

## Our Response

Mr. David S. Karlin  
15 Hawthorne Ave.  
Auburndale, Mass. 02166

Dear Mr. Karlin:

Your recent letter to us concerning unity among pharmacists and pharmacy associations was most interesting and I appreciated the time and thoughtfulness which obviously went into it.

One of the keys to success for this profession lies with the individual pharmacists themselves. That is why your letter is so refreshing. Pharmacists who take pride in their profession and who are willing to work within existing structures to achieve mutually agreed upon goals, are the salvation of pharmacy. It is obvious to everyone that pharmacy is about to undergo dramatic changes as roles are expanded and the scope of care we can provide to the public is increased. Our place in the health care system itself will change. The status, education and even professional designation of the practicing pharmacist is changing.

As a state association executive, I have tried to keep the divergent forces at work within pharmacy together and at least headed in the same direction. I have attempted to

manage public relations, media relations, interaction with the legislature and other health care professions. Our goal is not only survival of pharmacy in its various practices, but continued growth and recognition. It is the only way that we can avoid stagnation of the profession and frustration of the new practitioners entering the field.

I think you have focused on the main thing that concerned pharmacists, such as yourself, can do. Associations (any of the associations) are the appropriate place for attempting to change and improve the profession. Associations belong to the pharmacists themselves and can accomplish only as much as involved pharmacists are committed to do. I have decided that there will probably always be multiple associations on the state, national and local level which legitimately represent specialty practices and philosophical points of view. However, when the trend toward multiple associations prevents pharmacists from uniting together to solve urgent problems, or chart long range goals for the profession, then the frustration of the individual pharmacist can only increase as our professional and political divisions continue.

But, again, I would say that individuals, like yourself, are the key to this whole thing. Your pride, dedication, energy and willingness to work for change is what we, at the association, are counting on for the future. Do not become frustrated when organizations do not change overnight. Keep working within these structures to accomplish the correct goals as you see them. This is the only way that the system will work and survive to the benefit of us all.

You asked for a little philosophy. I hope this was not too large a dose. We appreciated hearing from you. Please keep in touch with the progress of your pursuit.

Sincerely,

David A. Banta  
Executive Director

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## USP Defended

Dear Dave:

While I generally support a number of the efforts of Neal Jacobs as he attempts to fight the suppressive nature of government regulation of pharmacy, unfortunately he has recently taken a stand in the *Maryland Pharmacist* that I cannot support. His call for the burning of 800 USP and NF's sadly ignores a tradition that pharmacy should fight to maintain.

The United States Pharmacopeial Convention, a private organization of pharmacists and physicians charged with the maintenance of drug standards in the United States, is a vital organization that must continue to be maintained in this era of government takeover of so many of our rights and responsibilities. In the earlier years of the USP, it was a reference book of great worth to the individual practitioner, and admittedly that relevance has changed in recent times. But I would argue that pharmacists should continue to support the USP



through the purchase of the volume for several reasons. First, the support of standards by the public is important and, in actuality the public is paying for that support by the pharmacist's purchase of the book since that cost is part of the operation of an individual pharmacy, and thusly is transmitted through to the public in the cost of medication that is purchased by them.

In addition, the USPC has recognized that the book itself does not provide as much reference support to the individual practitioner as is necessary, but the recent publication of the USP Dispensing Information is an attempt to correct that fault. The new volume does provide significant amounts of information to the pharmacist and the physician that should be of significant assistance in their provision of information to their patients.

While one can argue that the requirement that the USP be in the pharmacy requires further discussion, I would hold that our support of the tradition of a private organization composed of pharmacists and physicians that set the standards for drugs in the United States is a far more important issue than the solution of that argument.

I urge Neal to continue his quest for the deregulation of our profession, something we all should be interested in, but I hope that in the future he does not do it in a manner that rocks the foundation of our own profession.

Sincerely,

William J. Kinnard, Jr., Ph. D.  
Dean, School of Pharmacy, and  
Chairman of the Board  
United States Pharmacopeial Convention

WJK:B

cc: Mr. Neal Jacobs

Within the compatibility and incompatibility sections of each monograph, data are presented on the drug in combination with: (1) large-volume solutions, (2) other drugs in various large-volume solutions, and (3) other drugs in a syringe. Whenever available, the drug concentrations tested are given. The tabulated information is annotated with study results which further elaborate on the conditions of compatibility or incompatibility. Literature references are given in all cases.

The price of the *Handbook on Injectable Drugs* — 2nd Edition is \$15.00 for ASHP members and \$20.00 for non-members. Copies are available from:

American Society of Hospital Pharmacists  
Publication and Membership Records  
4630 Montgomery Avenue  
Washington, D.C. 20014

I am enclosing a review copy of this new publication and hope that you will bring it to the attention of your readers. I would appreciate receiving a copy of any review that you publish.

Sincerely,

James P. Caro,  
Manager, Special Publications  
Bureau of Communication and  
Publication Services

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## ASHP Handbook

Dear Mr. Banta:

The American Society of Hospital Pharmacists has just published the *Handbook on Injectable Drugs* — 2nd Edition. The *Handbook* is an authoritative compilation designed for practitioners who must make judgements about i.v. admixtures or other injectable drugs.

Features of the book include:

- a detailed introduction that discusses general principles of admixture incompatibility and instability;
- comprehensive coverage of injectable drug products;
- up-to-date compatibility information based on a systematic search of the literature;
- complete referencing of the data presented, relying on primary references;
- standardized format of data presentation, including test conditions such as concentration and base solution;
- complete cross-referencing of the information among monographs which are arranged according to nonproprietary names.

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## LAMPA

We are looking forward to the MPH/LAMPA Convention in Ocean City, Maryland, starting Sunday June 15, 1980.

Suprises for LAMPA are in order. We promise you a wonderful Convention!

Send in reservations early! Please.

Our program for Monday, June 15th features a meeting and fashion show. Tuesday's activities are being developed, and of course we will join Convention festivities as in the past, crab feast; cocktails and banquet on Wednesday, June 18th.

As my term of office as your President comes to an end at Convention time, I want to express my gratitude to my officers, membership and Association for their untiring support. I have enjoyed every moment, and wish LAMPA continued success.

Charlotte Reznick  
President



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We try to help you by providing quality products, policies and pertinent information—like Pharmascan<sup>®</sup>, which is distributed by our Representatives, assistance for many Continuing Education seminars, and a host of other educational materials that touch on all aspects of your profession. It's our way of recognizing your vital contribution to community health care.

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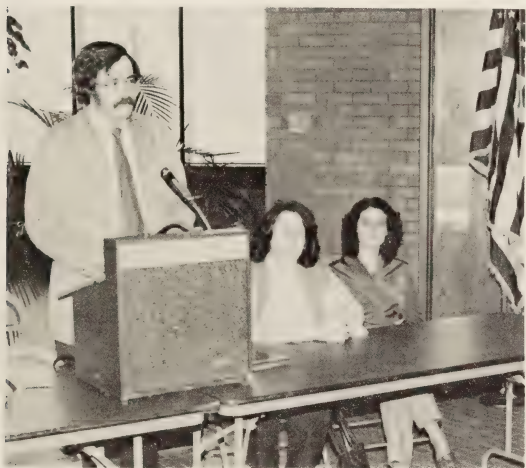




Pharmacists from the Hagerstown area received information on the special high blood pressure training program currently being conducted around the state.



Maryland Pharmaceutical Association Executive Director David A. Banta and American Pharmaceutical Association Director of Public Affairs Dena Cain participated in a videotaped television interview during a Media Relations Training Seminar recently held by APhA and Burroughs Wellcome at the drug manufacturer's headquarters in Research Triangle Park, North Carolina. The seminar was held as part of the APhA Affiliated State Pharmaceutical Association Executives' business meeting, to launch a cooperative program by state pharmaceutical associations, APhA and Burroughs Wellcome to train pharmacists to obtain access to and appear on radio and television programs, in order to provide patients with information on drug-related subjects.



Gary Oderda, Pharm.D., Director of the Maryland Poison Information Center presides over the Kickoff Symposium for Maryland Poison Prevention Week, March 16-22, 1980. Jacquelyn Lucy (right), Coordinator for the Center and Wendy Klein-Schwartz Pharm.D. (far right) Assistant Director, also provided remarks.



Ray Love, Ph.m.D.; William S. Bond, Pharm.D.; Martin Goldberg, M.D.; and Peggy Hayes, Pharm.D. were the speakers at a Symposium on Psychiatric Drugs which was held on March 6, 1980. The Symposium was sponsored by the Continuing Education Coordinating Council

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# ABSTRACTS

Excerpted from PHARMACEUTICAL TRENDS, published by the  
St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor  
and Leonard L. Naeger, Ph.D., Associate Editor.

## ETHANOL AND L-DOPA:

Ethanol has been shown to potentiate the effect of diazepam (Valium) by increasing its rate of absorption from the gastrointestinal tract. A similar potentiation of L-Dopa activity was seen when ethanol was used along with this antiparkinson drug. Unlike the enhancement of absorption of the drug as is seen with diazepam, ethanol seems to potentiate the effects of L-Dopa by enhancing penetration of the drug through the blood-brain barrier. *J PHARM PHA*, Vol. 31, #9, p. 636, 1979.

## PENTOBARBITAL-METOPROLOL INTERACTION:

The use of more specific beta-adrenergic blocking agents will undoubtedly increase as time goes on and along with this increase in use will be an increase in the number of drug-associated complications. Eight healthy volunteers took a single dose of metoprolol (Lopressor) and then again took that dose after receiving 10 days of pentobarbital (Nembutal) therapy, 100 mg. at bedtime each night. After pretreatment with pentobarbital the area under the curve for metoprolol was approximately 67% of the control values. This indicates that enzyme inducers may alter the half-life of metoprolol and thus one should be alert for this alteration of effects in all patients receiving beta-adrenergic blocking agents and enzyme inducers. *CLIN PHARM*, Vol. 26, #3, p. 326, 1979.

## METABOLIC FATE OF PHENOBARBITAL:

The effect of phenobarbital on the hydroxylating capacity of the liver is well known, but it is of interest that the formation of parahydroxy phenobarbital is not the major metabolic product of phenobarbital metabolism. Phenobarbital is metabolized primarily to glycopyranosyl phenobarbital and approximately 25 to 33% of a dose is excreted unchanged in the urine. *DRUG META D*, Vol. 7, #5, p. 315, 1979.

## ANTIHYPERTENSIVE REGIMENS:

Patients may readily respond to the administration of antihypertensive agents, and sometimes there is a tendency to discontinue the drugs after control of blood pressure has been achieved. In order to prevent a relapse of the hypertensive condition, it is suggested that the dosage of the antihypertensive medications be reduced gradually. This has been demonstrated to occur especially in patients receiving clonidine, guanethidine, and the beta-adrenergic blocking agents. It has been suggested that patients who are being removed from therapy be done so with care. *J CLIN PHAR*, Vol. 19, #8, p. 476, 1979.

## LUNGS:

The lungs have been found to take an active role in the clearance of certain drugs from the body. Enzymatic activity can be increased by smoking cigarettes, and factors such as cardiac output, exercise, hypoxia, and shock can alter flow of blood through the lungs and thus change the capacity of the respiratory tissue to clear drugs. A list of compounds which have been found to be acted upon by respiratory tissue includes propranolol (Inderal), imipramine (Tofranil), nortriptyline (Aventyl), amphetamine, pentobarbital (Nembutal), and lidocaine (Xylocaine). *CLIN PHARM*, Vol. 4, #5, p. 355, 1979.

## ELIMINATION OF DRUGS:

Drugs are eliminated by various routes, but the drugs lost in the feces have been thought to be lost exclusively through biliary excretion, or malabsorption. An experiment has been designed to determine if drugs reach the feces via active intestinal transport in addition to the excretion by the liver. Drugs such as metronidazole (Flagyl) and ouabain as well as the beta-adrenergic blocking agent, acebutolol, have been found to be eliminated at least partially by the active intestinal transport system. The process is dependent on tissue respiration as it is inhibited by cyanide, dinitrophenol and anoxia. Ethacrynic acid seems to inhibit transport but it is not altered by ouabain. *J PHARM PHA*, Vol. 31, #9, p. 643, 1979.

## STREPTOKINASE:

Streptokinase is an enzyme which produces a thrombolytic effect as well as a decrease in the viscosity of blood. The drug has been used successfully to reduce the mortality rate in patients who have recently experienced a myocardial infarction as measured by survival for a six-month period of time. The drug needs to be administered within 12 hours of the onset of symptoms in order to be effective. *N ENG J MED*, Vol. 301, #15, p. 797, 1979.

## ZOMEPIRAC:

A new non-steroidal, anti-inflammatory analgesic compound has been said to be as effective as morphine but not addicting. The drug, called zomepirac, has a longer duration of action than most commonly used narcotics. McNeil Laboratories has developed the drug and chemical studies indicate that it is similar in structure to their product tolmetin (Tolectin). Time will tell if the first potent, non-addicting analgesic is really here. *MED WORLD NEWS*, Vol. 20, #23, p. 14, 1979.



### ANTICOAGULANT THERAPY:

The use of anticoagulant therapy following a myocardial infarction has helped increase the survival of patients experiencing this traumatic condition. Although some controversy has surrounded the time period during which these medications should be used, most physicians feel that treatment for a period of time immediately after the attack is beneficial. Some authorities feel that certain physicians are failing to use anticoagulant therapy after the myocardial infarction and thus these individuals may not be doing all that is possible to help preserve the life of their patient. *J AM MED A*, Vol. 242, #12, p. 1261, 1979.

### NEOMYCIN:

Neomycin has been used orally in order to lower cholesterol levels in the blood serum. The drug apparently precipitates fatty acids and cholesterol in the bowel and thus prevents their absorption. Large doses of neomycin (6 Grams daily) seem also to cause a reduction in the absorption of bile acids which helps to further reduce the total fatty content in the body. The effect of neomycin on serum cholesterol was seen during the entire 16-month test period. *J CLIN INV*, Vol. 64, #5, p. 1485, 1979.

### VANADIUM:

In uremic patients, the kidney secretes, a higher fraction of the filtered load of sodium. Although it is still too early to fully understand this mechanism, it is possible that the elevated concentrations of vanadium may be responsible for the alteration in sodium secretion. Vanadium salts inhibit the sodium-potassium activated adenosine triphosphatase system which is responsible for the reabsorption of the sodium ion. *ANN INT MED*, Vol. 91 p. 742, 1979.

### EXERCISE AND HIGH DENSITY LIPOPROTEINS:

Patients who have survived myocardial infarctions were studied to determine if a common observation might be present to explain their survival of the attack. Most survivors had high levels of high-density lipoproteins and it is felt that exercise helps increase their concentration and thus helps prevent mortality. *J AM MED A*, Vol. 242, #20, p. 1285, 1979.

### VITAMIN C AND CANCER:

Some investigators have suggested that large doses of vitamin C may be useful in treating cancer. They felt that the cancerous growth may be spread throughout the body because a deficiency in vitamin C may allow the growth to penetrate the intercellular matrix more readily. Patients in a double-blind study were given either a 10 Gram daily dose of vitamin C or a comparable placebo. Results based on this study of 150 patients indicate that there is no beneficial effect of large doses of vitamin C in cancer patients. *N ENG J MED*, Vol. 301, #13, p. 687, 1979.

### PHYSICIANS ASSISTANTS AND NURSE PRACTITIONERS:

A study of 21 volunteers conducted in physician's offices was carried out in order to determine the value of the physician assistant and the nurse practitioner in primary patient care. The author has concluded that in these situations, the

care given the patient by these health professionals was indistinguishable from the given by the physician. The study indicates that these people can play a role in primary health care, but their effectiveness in unsupervised situations away from an office setting and their ability to care for the more seriously ill patients has not yet been determined. *ANN INT MED*, Vol. 91, #3, p. 459, 1979.

### METHADONE:

A double-blind study was conducted for three years in 100 heroin addicts. Half of the patients received a placebo while the remaining received methadone. After 32 weeks, only 10% of the control group were returning for therapy while 76% of those receiving methadone returned. After the three-year period was up, only one person was returning for placebo therapy while over half of those receiving methadone were still involved. The authors have concluded that methadone therapy involves giving a drug to a drug-seeking population and thus one should more closely investigate the effect of placebo on the rehabilitation of a heroin addict. *LANCET*, Vol. II, #8141, p. 485, 1979.

### DRUG-INDUCED MALE SEXUAL DYSFUNCTION:

Several drugs have been found which adversely affect sexual function in males. The list includes such drugs as guanethidine (Ismelin), methyldopa (Aldomet), clonidine (Catapres), the major tranquilizers, tricyclic antidepressants, anticholinergic agents, spironolactone (Aldactone), and cimetidine (Tagamet). Physicians are urged to evaluate the effect of sexual dysfunction on the psychological attitude of the patient before using any of the above agents. *BR MED J*, Vol. 2, #6195, p. 883, 1979.

### CIMETADINE:

Cimetidine (Tagamet) has been found to produce a few cardiac abnormalities which are associated with sinus-node dysfunction. An experiment was designed to determine if histamine plays a role in the maintenance of nodal rhythm, and to see if cimetidine could alter this activity. The drug was found not to affect the heart rate, sinus-node recovery time, nor sinoatrial conduction times. Only 10 patients were used in this study, but none showed sinoatrial node abnormalities. This does not rule out a role for histamine in cardiac tissue, and since some patients do definitely show signs of bradycardia while taking cimetidine, more work will be done to see if a more positive correlation can be made. *N ENG J MED*, Vol. 301, #11, p. 591, 1979.

### MENTAL RETARDATION:

Generally more males are mentally retarded than are females. Since 1969, workers have looked for an answer which might help explain this difference. Investigators have found that a fragile X chromosome may be responsible for the retardation in males. Cytogeneticists have found that the trait is seen within families and have suggested that this chromosomal abnormality is responsible for the retardation. They feel that this chromosomal fragility is second only to Down's syndrome in responsibility for producing mental retardation in males. *J AM MED A*, Vol. 242, #17, p. 1829, 1979.

### INDOMETHACIN-FUROSEMIDE INTERACTION:

Prostaglandins are thought to play a role in the regulation of fluid and electrolyte balance in the body. In order to determine what effect a potent inhibitor of prostaglandin synthesis might have on the effectiveness of a diuretic, indomethacin (Indocin) was administered alone and then along with furosemide (Lasix) to a group of volunteers. The effectiveness of the diuretic was reduced in proportion to the dose of the anti-inflammatory agent administered. Thus it is felt that closer attention should be paid to urinary function in patients who are receiving both types of drugs. *J PHARM EXP*, Vol. 210, #3, p. 386, 1979.

### CHLORAL HYDRATE:

Many non-barbiturate depressants have been used but few have really produced any benefit above that obtained with a barbiturate. Chloral hydrate is a drug which has been used for a long time and still has value today. It produces a hypnotic effect when used in doses of 500 to 1000 mg. and is capable of inducing sleep without producing excessive side reactions. The authors of this article have concluded that chloral hydrate still is of value today, especially in the hospitalized patient. *J CLIN PHAR*, Vol. 19, #10, p. 669, 1979.

### NEW BACTERIAL SPECIMEN:

A new type of bacteria related to *Legionella* and rickettsial organisms has been found to be responsible for death in humans by producing symptoms resembling pneumonia. The organism was first found in hen egg cultures in 1959 and was called WIGA. Now the first report has appeared in which the organism has been definitely associated with the death of a human. *ANN INT MED*, Vol. 91, #5, p. 673, 1979.

### URUSHIOL:

Poison oak and poison ivy contain a contact allergen called urushiol. The compound acts to cause dermatological eruptions in patients susceptible to the toxin. Urushiol is composed of a catechol ring and a side chain. Researchers have investigated the relative effect of these two major components of the molecule and have concluded that the unsaturated catechol ring is more important in producing the allergic response. Using this information, it may now be possible to design a desensitizing agent which can be useful in helping to prevent this type of contact dermatitis. *J CLIN INV*, Vol. 64, #5, p. 1449, 1979.

### EXTRACORPOREAL MEMBRANE OXYGENATION:

Patients with severe respiratory problems are unable to adequately oxygenate their blood so the blood was removed from the body of oxygenation. The technique works to provide only temporary relief. *J AM MED A*, Vol. 242, #20, p. 2193, 1979.

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Daily newspapers accounted for 52.3% of total coupon distributions in 1979 versus 55.6% in 1978. Sunday papers and magazines increased in share of coupons circulated this past year. Further gains were made by free-standing inserts, whose share of distributions rose from 13.4% in 1978 to 14.9% in 1979. Direct mail offers accounted for 3.2% of total distributions, while in/on pack promotions represented 7.9% of all coupons circulated last year.

% OF COUPONS DISTRIBUTED BY MEDIA	1977	1978	
1979			
Daily Newspaper	56.9%	55.6%	52.3%
Daily Newspaper	56.9%	55.6%	52.3%
Sunday Paper	8.5	7.7	9.5
Free-Standing Insert	11.8	13.4	14.9
Magazine	12.5	11.4	12.2
Direct Mail	3.0	3.0	3.2
In/On Pack	8.2	8.9	7.9
Coupons Distributed (Billions)	62.2	72.7	81.2



# The Surcease of Pain and the dreamer

by

**John C. Krantz, Jr., Ph.D.**

Professor Emeritus  
Department of Pharmacology  
University of Maryland  
School of Medicine



Pain is the arch enemy of mankind. It has harassed every step of his ascent from a rude dweller in cliffs to the occupant of the modern skyscraper. Man realized early that his survival involved achievement and to achieve progress in any endeavor it was essential to conquer pain. Primitive man ransacked the entire earth to obtain remedies that would alleviate pain and suffering.

In early Biblical times the brothers of Joseph, who were jealous of their youngest brother, saw Joseph coming to them through the meadow. They announced "Behold this dreamer cometh." Joseph the dreamer was to rise to a high position with the King of Egypt. He was responsible for the perpetuation of the line of Jacob. His success was due to his ability to lead a life of thought and contemplation, a true dreamer.

Primitive man discovered that alcohol in the form of its various beverages was useful in obtunding pain. The French surgeon, Ambroise Pare (1552) used the native wines to produce unconsciousness in his patients before performing his heroic surgical procedures. Along with alcohol was the juice of the poppy or opium. This was known to Homer who wrote about its analgesic action. He wrote of its power to relieve pain and quell the anguish of the spirit.

These were wonderful gifts from the vegetable kingdom but each agent was like the finger of God. It could heal and it could smite. Alcoholism and drug addiction have been penalties that frequently result from the use of either of these agents to relieve pain. Man was waiting for a dreamer.

Hippocrates, the father of medicine, lived on the island of Cos about 2400 years ago. His vegetable armamentarium of drugs consisted mainly of cathartics and sedatives. However Hippocrates was a dreamer — he tried the bark of the willow tree and found that it produced a greater flow of urine. It appears that he was unaware of the analgesic and antipyretic properties of the bark. And man waited for another dreamer.

In 1763 the Reverend Edward Stone wrote to the president of the Royal Society and described his experiences with the use of the willow bark in the treatment of fever. It was bitter and reduced fever, he therefore compared it to the Peruvian bark (Cinchona) that contains quinine. He wrote as follows:

"As this tree delights in a moist or wet soil, where agues usually abound, the general maxim, that many natural maladies carry their cures along with them, or that their remedies lie not far from their causes, was very apposit to this case, that I could not help applying it; and this might be the intention of Providence here, I must own had some little weight with me."

Stone used the dried powdered bark and gave 20 to 60 grains every four hours. He treated 50 cases of "ague and intermittent disorders". He occasionally used Peruvian bark with the willow bark in some of the cases. He reported that the results were uniformly satisfactory. Indeed, following Stone's report some physicians believed that the willow bark had the same virtues possessed by the more expensive Peruvian bark and this instituted a more abundant use of the willow bark.

In 1828 salicin, a glucoside from the willow bark was isolated and found to be the active principle. In 1838 Piria prepared salicylic acid by the hydrolysis of salicin.

The present era of salicylate therapy begins in 1874 when Kolbe and Lautemann synthesized salicylic acid. The acid is a white crystalline powder that is sparingly soluble in water and is an escharotic to the skin and mucous membranes. It exhibits antiseptic properties and was extensively used as a preservative for meat and milk. The sodium salt of the acid enjoys only mild antiseptic properties but is far less erosive to the skin and mucous membranes. It was employed as an analgesic and antipyretic.

Soon sodium salicylate became the drug of choice in the treatment of rheumatic disease and fever. The Bayer Chemical Works in Elberfeld, Germany was interested in preparing derivatives of salicylic acid. Accordingly Von Gerhardt synthesized acetylsalicylic (Aspirin) in 1853. Salicylic acid was called spirasaure as it was obtained from plants of the *Spiraea* family and *saure*, the German for acid. Aspirin contains the acetyl group, hence the name *aspirin*. The drug lay fallow on the shelf of Bayer Laboratories until the turn of the century.



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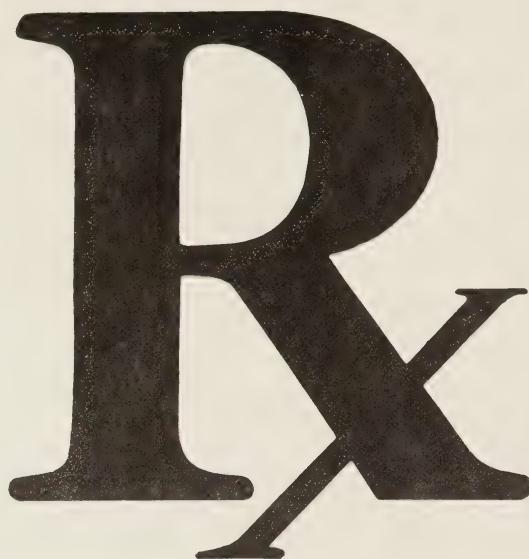
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**1952** U-500, Concentrated  
Strength

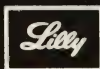
**1954** Lente® Iletin

**1957** Semilente® and Ultralente®  
Iletin

**1972** Iletin of Single Peak Purity

**1973** U-100 Iletin and Neutral  
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# “Diabesity”, Exercise and Diet

Most of the approximately 7 million Americans who are both obese and diabetic can control their disease by achieving weight loss through a combination of calorie and carbohydrate restriction with exercise, according to a recent report by the Division of Research Resources of the National Institutes of Health. The associated symptoms of adult-onset obesity and adult-onset diabetes have been labeled “diabesity” by Dr. E. A. H. Sims, head of a team of researchers at the University of Vermont College of Medicine.

“I don’t suggest diabesity is a single disease entity,” he said. “There are several obesity syndromes, and there are certainly also several subtypes of diabetes. There tends to be, however, a cluster of characteristics we call diabesity that can be distinguished from insulin dependent diabetes or childhood onset obesity. It is a progressive disorder in adults.”

The researcher maintains that “diabesity” is also strongly associated with hypertension, blood lipid abnormalities, and blood vessel diseases. The obesity is more central rather than uniformly distributed as it is in life-long obesity. “Unlike insulin-dependent diabetics, these are not truly dependent on exogenous insulin. At least in the early stages of the disorder, the pancreas may produce more than normal amounts of insulin, but not enough to meet the demand of the increased insulin resistance. If people lose weight, become more active and lower the cellular demand for insulin, there is a decrease in blood-insulin levels, and cells again become sensitive to insulin. Later in the course, failure of the beta cells of the pancreas with absolute insulin deficiency may develop.”

Previous studies at the University of Vermont have shown that when volunteer subjects overeat and gain weight, they develop insulin resistance which is reversible. Recent studies at the Vermont General Clinical Research Center by Drs. Stephen Phinney, Edward S. Horton, John Hanson and Sims were designed to measure how well patients following severely restricted diets could engage in endurance exercise. Six young obese adults, ranging in weight from 164 to 216 pounds (obese in relation to their individual height), were chosen for an eight-week study in the Vermont GCRC, supported by the DRR and the National Institute of Arthritis, Metabolism, and Digestive Diseases. They were given a daily diet of 1.2 grams of lean meat per kilogram of ideal body weight. The diet was supplemented with minerals and vitamins. The subjects also underwent closely monitored moderate exercise, measured on a treadmill.

In the study they found that during moderate exercise following six weeks of dieting, muscle glycogen was not used even though there was adequate reserve. They felt well and alert. Their capacity for moderate exercise on the treadmill had increased by more than 50 percent. During the six-week period of dieting, the subjects lost as average of 23 pounds, two-thirds of which was fat.

“We regard such severely restricted diets only as an adjunct treatment in the severely overweight,” says Dr. Sims, “and for some of those who have diabetes, hypertension, or other medical problems which may be relieved as

they lose weight. We do not feel that supplemented fasts are necessarily hazardous, but there are certain contraindications. Protein-supplemented diets have been used inappropriately for some people with mild obesity.” The protein-supplemented diet with vitamin and mineral supplements used in this trial is nutritionally complete, but because of the absence of carbohydrates, the body had to switch metabolic mechanisms.

During prolonged exercise, people burn fatty acids and ketone bodies. The metabolic state of ketosis is a reflection of an inadequate supply of carbohydrate. Insulin levels drop and other hormones, such as glucagon and cortisol, increase. Fat is mobilized. Controlled studies are in progress with varied diets and types of exercise to determine whether marked restriction of carbohydrates is indeed critical or desirable for suppression of appetite, conserving body protein and enabling exercise to be combined with accelerated weight loss. Until such evidence is available, Dr. Sims admonishes that the patient undergoing rapid or large weight loss should not be encouraged to indulge in strenuous exercise.

Prehistoric man, Dr. Sims points out, lived in a state of starvation with intermittent feeding, which is uncommon for most people today. “Americans rarely miss a meal.”

“Overeating alone does not cause diabetes,” he maintains. “There are additional factors, probably inherited, that cause insulin resistance to progress into frank diabetes. The characteristic dual development of diabetes and obesity in adults is strongly inherited and is also associated with high birth weight in newborns.” Oral agents are still used by an estimated 1.75 million Americans who have adult-onset diabetes. Even more overweight patients use insulin. Dr. Sims believes that at least in the early stages of their disorder, most of these overweight diabetes are treated inappropriately because they are not ketotic and not dependent on exogenous insulin.

“When you treat patients with insulin,” he says, “they frequently begin a cycle of increased weight, increased insulin resistance, and higher blood-sugar levels — all of which may lead to cardiovascular problems. During infection or acute illness or late in the course of their disease, if true insulin deficiency develops, insulin will be needed. Many, and probably most, of these people are spending large amounts of money for medication that is counter-productive to their health. We are wasting our resources if we treat with a predominantly pharmacologic and symptomatic approach.”

The Vermont team is working on how to help the patient to maintain weight loss. They suspect that the combination of increased physical activity combined with dietary restriction may be more effective, since physical training even without weight loss improves insulin sensitivity.

For further information on this study, write to Dr. E. A. H. Sims, Professor of Medicine, Department of Medicine, University of Vermont College of Medicine, Givin Building, Burlington, Vermont 05405.



# Thank You



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# USP DRUG PRODUCT PROBLEMS REPORT\*

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## Package Insert Change

A pharmacist from Oregon in the Public Health Service reported that a brompheniramine maleate, phenylephrine HCl and phenylpropanolamine HCl combination tablet labeled with one brand name came with a package insert utilizing another firm's brand name with the same formulation. The insert had been provided by the company which made the same combination tablet for both itself and the other firm. The manufacturer wrote USP that the package inserts would be changed.

## Caps to be Changed

Upon opening pint bottles of two different expectorant products, a "black powdery residue" was found by a New York State pharmacist on the inside of the caps. Following the receipt of this report through DPPR, the manufacturer investigated the problem and reported back that the specks came from the black caps and that steps had been taken to correct the problem, including hand capping rather than using machinery and wiping out the caps prior to use. The firm also indicated that they planned to change to a white poly cap.

## Labeling Warning Ordered

A Louisiana hospital pharmacist submitted labeling of a hydrocodone-vasoconstrictor-antihistaminic combination and pointed out that the contraindications section listed "none." The pharmacist was especially concerned that there was no mention of possible hypersensitivity to the hydrocodone. In response to this report, the firm proposed new labeling which was to warn against concurrent treatment with MAO inhibitors or anti-hypertensive medication and hypersensitivity to any of the ingredients.

## Label Misprint

A New York pharmacist reported to the USP that the label on a one gallon bottle of theophylline elixir contained a misprint in the adult dosage. The label gave the dose as "75 cc (5 teaspoons)" instead of "75 cc (5 tablespoons)". The firm replied to the USP that they had been aware of the print error and had attempted to hand correct the labels by blocking out the error. However, at least this one label had slipped through uncorrected. To prevent more uncorrected labels from being distributed, the firm destroyed the remaining inventory of problem labels and ordered new ones to be printed with the correct terminology.

## Graduations Added

A class II controlled analgesic in a multi-dose vial was reported to be creating accountability problems for nurses in a Florida nursing center at the end of each shift, due to lack of

graduations on the vials. The company involved replied that the issue had caused much debate because a volume scale that had been on the label some years before had been used inappropriately by some nurses for dosing and exact volume count. However, the firm was initiating a plan whereby a scale would be affixed to each vial carrying the disclaimer: "Approximate Volume Guide." In addition, on the top of each carton would be the statement: "Approximate volume guide on label in 2 ml increments. Not accurate for dosing."

## Silicate Precipitate Removed

"We have identified the sediment as a silicate precipitate which is not harmful but is aesthetically undesirable" read the reply from the firm in whose mouthwash and gargle "foreign material" had been observed by a pharmacist from a hospital in Oklahoma. The reply further stated that based on this report and those of others, the company had made manufacturing changes designed to eliminate this sediment.

## Storage Directions Added

A county health department pharmacist was concerned that, although the box provided the information, the labels on the vials and the package inserts for a coccidioidin intradermal skin test did not contain the storage information. The firm wrote that the FDA Bureau of Biologics had approved the labeling; however, they indicated to USP that they considered the idea to place storage information on the labels to be a wise suggestion. The firm stated they would get approval of label copy that would provide storage information on each vial.

## Sticking Tablets

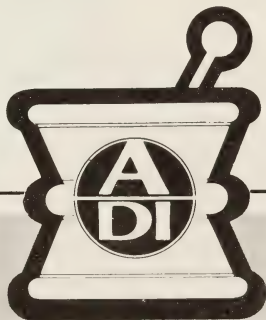
A Texas pharmacist submitted a report through DPPR that antiasthmatic tablets were sticking together and crumbling. USP forwarded a copy of the report to the firm marketing the product. Although this firm did not actually manufacture any of the products in its pharmaceutical line, they contacted their supplier and were informed that the problem was apparently due to storage conditions after manufacturing. To eliminate the problem, the firm indicated they would arrange to have the tablets film coated in the future.

## Disintegration Failure

Reports were received from pharmacists in California and Michigan that patients were passing undissolved methenamine mandelate tablets in the stools. The firm initially replied that the tablets were within USP specifications and thus the phenomena might be patient related. However, testing by the firm later showed that some of these enteric coated tablets showed a potential for disintegration failure. Several lots were then recalled.

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APRIL 19-24 — APhA Annual Meeting, Washington, DC.

APRIL 30-MAY 3 — Annual Meeting Medical & Chirurgical Faculty of Md.

MAY 13 — Francis Balassone Lecture

MAY 1 — Continuing Education Coordinating Council Seminar — Pikesville Hilton

MAY 18 — Class Reunion at the Kelly Memorial Building

JUNE 15-19 — MPhA CONVENTION — CAROUSEL HOTEL, OCEAN CITY

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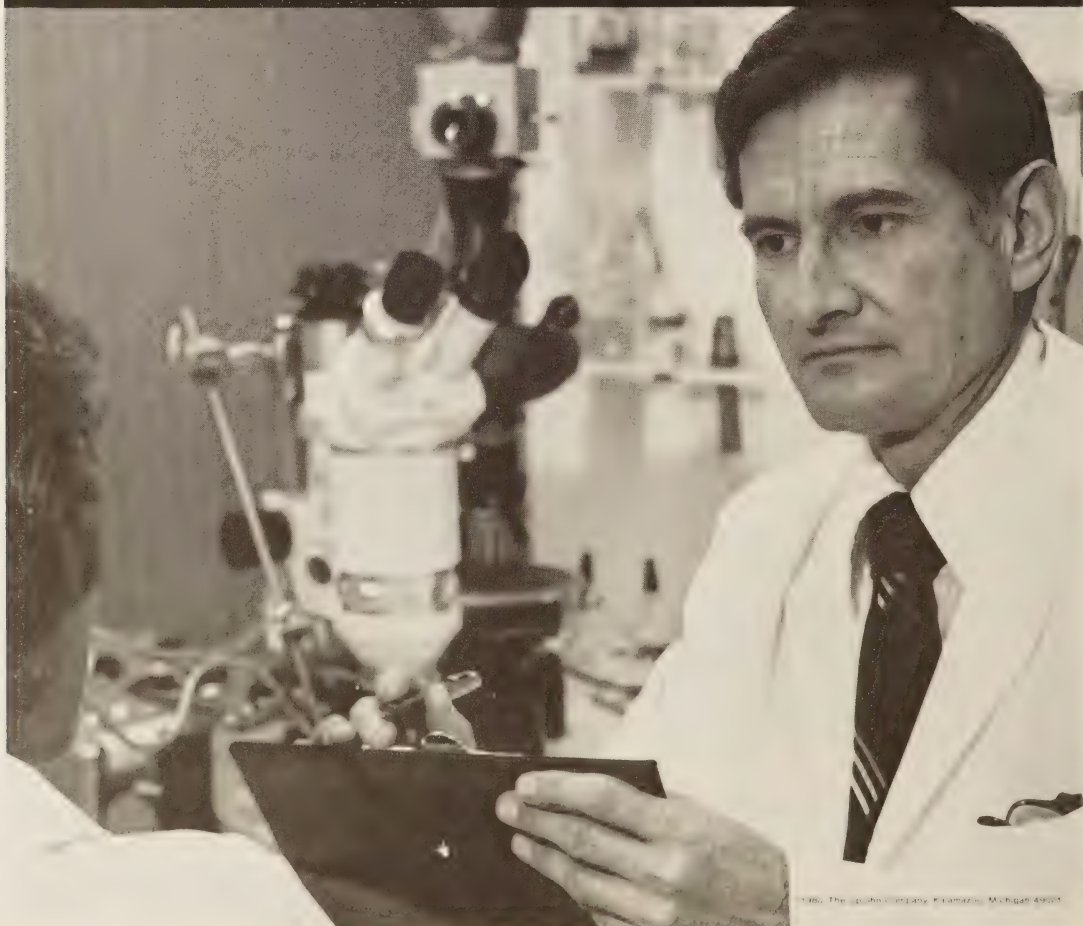
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**THE  
MARYLAND  
PHARMACIST**

Official Journal of  
The Maryland  
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MAY, 1980

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**Nomifensine — A New Antidepressant**

— *Craig K. Svensson*

**Maryland's High Blood Pressure Program**

— *Donald O. Fedder*

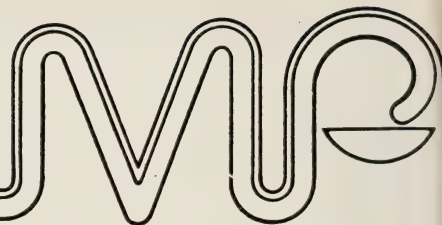
**Fall Regional Pictures**

**SPECIAL CONVENTION ISSUE**



# THE MARYLAND PHARMACIST

650 WEST LOMBARD STREET  
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MAY, 1980

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NO. 5

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It is always a pleasure for me to report back to the membership whenever there is progress on the third party reimbursement front.

We have received word from Prescription Drugs Incorporated that they intend to offer all Pharmacies a new contract which will allow reimbursement on the basis of "Usual and Customary" *plus* 25 cents for a handling fee. My personal opinion is that this represents a major breakthrough in third party prescription programs and their relationships with pharmacists. I would urge each Pharmacy-owner member who does business with PDI to carefully consider the new contract. I would also point out that a serious responsibility falls upon each pharmacist who enters into this unique program to ensure that there is not exploitation of the usual and customary feature of this program.

We have indications that several third party programs may be raising their dispensing fees and we will, of course, keep you informed as these become official.

The Association and the Medicaid Liaison Committee have now begun asking the State to redo the cost of filling a prescription survey. The last survey was started in the Spring of 1978 and the State is required by the Medicaid Guidelines to perform a survey once every three years. It is not too early to plan for the next one which is due in 1981.

The 40-cent increase which was just announced came, in large part, as a result of that last survey. We are grateful to the State for this large increase, but since the data is two years old already, the increase has failed to keep up with our escalating costs. But then, who could have predicted two years ago when we began this process that inflation would hit the record numbers that it has. We must work with the State so that we all can do a better job of anticipating our rising costs by planning for more current dispensing fees that promptly respond to our immediate cost increases.

RONALD LUBMAN

# NOMIFENSINE — A New Antidepressant

By Craig K. Svensson  
PHARM. D. STUDENT

## INTRODUCTION

*The tricyclic antidepressants are considered by most clinicians as the agents of choice for the pharmacological treatment of depression. However the tricyclics suffer from many short comings which include their delayed onset, anticholinergic side effects and potential for cardiotoxicity when taken in overdose amounts. An agent possessing equal or greater efficacy which would not suffer from some of the same drawbacks would be a welcomed addition to the clinician's armamentarium. Early results of clinical trials with nomifensine, a tetrahydroisoquinoline antidepressant which is chemically unrelated to the tricyclics, suggests equal efficacy to the tricyclics with less problems.*

## PHARMACOLOGY

The mechanism of action of the tricyclic antidepressants is believed to be due to their effects on biogenic amine uptake,<sup>1,2</sup> and nomifensine does not sway from this theory. Amitriptyline has been shown to be a potent inhibitor of serotonin (5-HT) reuptake, whereas imipramine and nortriptyline have activity on both 5-HT and norepinephrine (NE) reuptake. Desimipramine has relatively weak activity on 5-HT, but significant inhibition of NE reuptake. Nomifensine also has significant activity on NE reuptake. Nomifensine itself has little activity on 5-HT, but one of its active metabolites has significant activity on 5-HT reuptake.<sup>3</sup> However, if this metabolite contributes to the antidepressant effects of nomifensine its contribution is relatively minor since only seven percent of the parent compound is converted to this metabolite. One way in which nomifensine differs from the tricyclics is in its potency to inhibit dopamine (DA) reuptake.<sup>4</sup>

Current research with the tricyclics indicates that their mechanism of action may be due to blockade of presynaptic alpha receptors.<sup>5</sup> Normally the presynaptic alpha receptors are stimulated by the released neurotransmitter causing a feedback inhibition, which prevents further neurotransmitter release. Blockade of this receptor would prevent the normal feedback mechanism from coming into play. Hence the neurotransmitter would continue to be released. Presently nomifensine has not been studied with regard to its possible effects on presynaptic receptors.

As noted earlier one of the disadvantages of the tricyclics is their potential cardiotoxicity. Using guinea-pig isolated heart, studies have shown nomifensine to have significantly

less cardiac depressant effects than both imipramine and amitriptyline as measured by influence on contractile force.<sup>6</sup> The tricyclics have also been shown to cause myocardial conduction defects manifested by prolongation of the QRS interval.<sup>7</sup> In a study once again using guinea pig heart, nomifensine had no effect on the QRS interval when given at the same doses in which amitriptyline and imipramine caused two to three fold increases in QRS time.<sup>6</sup> In humans who received doses up to 200 mg of nomifensine per day for three weeks, nomifensine was found to have significantly less effect on cardiac conduction than doxepin and amitriptyline.<sup>8</sup>

While some clinical investigators have claimed that nomifensine has less anticholinergic activity than the tricyclics,<sup>9,10,11,17</sup> no experimental animal reports have appeared in the English literature which have attempted to quantitate the anticholinergic activity of nomifensine. One author in the English literature cited an unpublished report which found that nomifensine did not reduce the toxicity of physostigmine when given in doses of up to 100mg/kg.<sup>3</sup>

## PHARMACOKINETICS

Nomifensine is readily absorbed after oral administration. The drug is primarily eliminated by the kidney and has a half-life of two to four hours. Pharmacokinetic investigations have shown that there is a significant prolongation of nomifensine's half-life in individuals with a creatinine clearance of less than 25ml/min, thus investigators recommended the agent to be avoided in these individuals.<sup>12</sup> As with the tricyclics, no correlation between plasma drug concentration and clinical effect has been shown.



## CLINICAL TRIALS

Clinical studies have demonstrated that nomifensine is superior to placebo in the treatment of depression.<sup>13-14</sup> Several studies comparing nomifensine to various tricyclics have appeared in the literature.

In studies comparing nomifensine with imipramine, no significant differences between the drugs with regard to efficacy or onset of action were observed.<sup>9-10, 11-15</sup> In two separate studies, Amin et al<sup>9-10</sup> demonstrated that patients receiving nomifensine suffered less anticholinergic side effects as measured by dry mouth. In a study of 19 patients, (where 12 received nomifensine and seven imipramine) McCawley found that four patients on nomifensine suffered no side effects, whereas all of the patients on imipramine experienced at least one side effect.<sup>11</sup>

In a double-blind trial comparing nomifensine and amitriptyline in variable doses, one group of investigators found that there was no significant difference in the efficacy of the two drugs, but they did note that nomifensine had a faster onset of action.<sup>16</sup> A significant reduction in the values of the Hamilton Depression Scale\* was achieved by the end of the first week with patients on nomifensine, whereas a significant decrease was not seen in the amitriptyline group until the third week of treatment. They also noted that patients on amitriptyline suffered a higher incidence of side effects. However, it should be noted that the amitriptyline group was significantly older (average age 53.8 + 10.6 yr). Thus the differences between the two drugs may be age related rather than agent related.

McClelland et al<sup>17</sup> noted in a comparative study of nomifensine and amitriptyline that the overall incidence of side effects between the two drugs did not differ significantly. However there was a significantly higher incidence of dry mouth among the amitriptyline patients. McClelland's study was unique among other investigations in that he developed a method to quantitate the severity of side effects using a rating scale. Patients were given a questionnaire which asked about side effects such as drowsiness, dry mouth, dizziness, tachycardia, blurred vision, etc. The patients were asked to rate the severity of these side effects on a scale from zero to three. If the patient manifested a symptom (such as dry mouth) before initiation of the study, the patient was asked to grade the degree of change of that symptom that occurred during the study. In using this method these investigators found that the amitriptyline group suffered more severe side effects.

Nomifensine has also been shown to be equal in efficacy to desimipramine and nortriptyline.<sup>18-19</sup> The incidence of tachycardia was found to be less with nomifensine than with nortriptyline, whereas the incidence of dry mouth between the two drugs was not significantly different.<sup>19</sup>

## OVERDOSAGE

Overdose of the tricyclics can result in coma, convulsions, hallucinations, arrhythmias and death.<sup>20</sup> Evidence in the literature so far indicates that overdoses of nomifensine does not result in the same complications as overdose of the tricyclics. In a report on 26 cases of suspected nomifensine overdose transient hypotension, sinus tachycardia and coma each occurred in one of 12 patients believed to have ingested nomifensine alone. In 14 patients believed to have

also ingested other drugs coma occurred in three, tachycardia in three and transient hypotension in one.<sup>21-22</sup> Cases of nomifensine overdose resulting in convulsions have not been reported in the literature.

## SUMMARY

Nomifensine appears to be as efficacious as the tricyclics in the treatment of depression but may cause less anticholinergic side effects. Due to increasing reports of tricyclic overdoses, nomifensine's relative lack of CNS and cardiotoxicity make it an appealing agent for the outpatient treatment of depression. The fact that nomifensine inhibits DA reuptake may lend support to clinicians who feel that DA plays an important role in the pathogenesis of depression. However, because of nomifensine's DA activity, it has been postulated that it may aggravate Schizo-Affective patients and some investigators have recommended that the drug be avoided in these individuals.

## ACKNOWLEDGEMENTS

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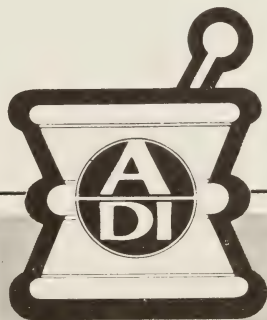
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**C I B A**

# The Pharmacy High Blood Pressure Program of Maryland

## *The Challenge and the Opportunity*

by  
Donald O. Fedder

For the first time ever, a large network of community pharmacies are being enlisted in a broad based program to help reduce the number of uncontrolled hypertensives in Maryland. The pharmacists' role in the program is not just to distribute pamphlets, not just to provide space for posters, not just to participate in a periodic health "promotion," but to provide ongoing monitoring, education and reinforcement to patients, their physicians and their families as part of a coordinated attack on a serious, but manageable public health problem.

Under contract with the National Heart, Lung and Blood Institute (NHLBI Contract # 1-HV-7-2986) a Statewide Coordinating Council, representing all of the health disciplines, voluntary and governmental agencies, the media and the public sector, has been established. A baseline survey, resources inventory, educational assessment and preliminary mortality analysis were utilized by ten Council committees to develop the Statewide Implementation Plan for High Blood Pressure Control.

*The Pharmacy program is one of the "special programs designed to enable existing providers to monitor patients and their treatment status over long periods of time and to have meaningful communication with hypertensives . . ."*

### **The Problem**

Diseases of the heart and cerebrovascular disease are the number one and number three cause of death, respectively, in Maryland. High blood pressure is the major cause of strokes and is a leading contributor to death and disability from heart disease and renal failure in Maryland.

In 1978-1979, a random household survey was conducted by the University of Maryland to collect baseline information about the prevalence of high blood pressure in Maryland and about the present awareness, treatment and control levels of hypertensives by age, race, sex groups and by geographic region. The survey and preliminary analysis of the data were completed in the spring of 1979.

The survey showed the 19% of whites and 23% of blacks

in Maryland have high blood pressure. (High blood pressure: diastolic  $> 90$  or on medication for high blood pressure) Applying these percentages to the Maryland population, 560,000 Marylanders 18 years of age and older have borderline or definite diastolic high blood pressure. Of these persons, 250,000 (45%) are controlled (Controlled: diastolic blood pressure  $< 90$ ) on drug therapy and 310,000 (55%) have elevated blood pressures at this time.

The problem, therefore, is to keep the 250,000 persons taking adequate medication and to bring the 310,000 persons under control. Of the 310,000 persons not controlled, 170,000 have borderline elevations (90-94) and 140,000 have diastolic blood pressures  $> 95$ .

### **Progress to Date**

All licensed pharmacists who are actively practicing in a community pharmacy were asked if they would be willing to consider participation in the program. Those responding (either "Yes" or "No") were sent questionnaires to provide important baseline data about themselves and their practices.

Following completion of the questionnaire, those who had answered "Yes" to the "Willingness letter" were being systematically invited to implement the program. Implementation will continue over the better part of a year until all of those interested will have been enrolled. By mid April, 1980, approximately fifty pharmacies had been enrolled.

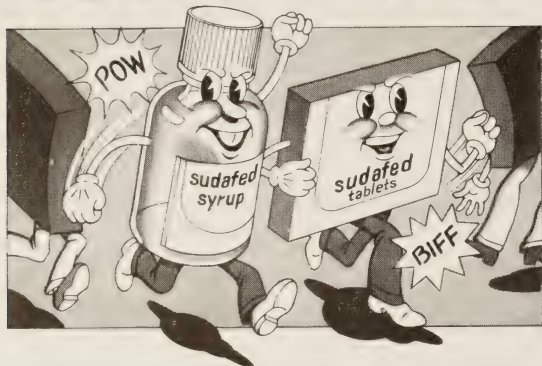
### **The Program**

Pharmacists in the program are asked to maintain a patient medication profile (at least for their hypertensive patients), to monitor the profile for timely refills, to remind patients to get their high blood pressure prescriptions refilled by sending them a reminder post card a week before the established refill date, to reinforce a health message that is contained on the post card and to provide some minimal documentation to the program.



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Pilot testing plus accumulated experience to date indicates that the program is:

1. Compatible with current pharmacy practice, causing minimal disruption to routine.
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4. Participation is being encouraged by peers, physicians, patients and their families, and the community in general.
5. Benefits accrue to the pharmacy:  
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INCREASED LEVEL OF SERVICE TO PATIENT PROVIDES INCENTIVES FOR PATIENT TO UTILIZE THE PHARMACIST EXCLUSIVELY.  
INCREASED PROFESSIONAL SATISFACTION.

## The Challenge

The seriousness and dimensions of the problem of sustained high blood pressure are such that concerted action by all segments of society is needed. Pharmacy has frequently complained that it is an underutilized member of the health care team which could and should be more involved in the delivery of care. Pharmacy education has increased its clinical components over the past decade at the prodding of the profession, government and others, but the effects on practice are just beginning to be seen. In Maryland, pharmacists are being encouraged to increase the level of patient-oriented care in this public health effort. Its importance in human terms cannot be overemphasized. Results to date indicate that pharmacists are rising to this challenge, but long term commitment and participation is necessary if the goal of high blood pressure control is to be attained.

## The Opportunity

In addition to meeting the need, Maryland pharmacists have an opportunity to experiment with various means of providing these increased levels of care with a program that is not only sanctioned by the high blood pressure "establishment", but funded by it as well. Important resources are being brought to bear on problems of pharmacy practice in this program that have not been available before. Systems design, printing of adequate supplies of forms, staff training and follow-up, and other coordinated activities of providers and community resources are included. Researchers and analysts will be examining this effort, and the results promise new insights into both the value of pharmacy service and methods for providing these services.

Results to date indicate that not only are pharmacists rising to the challenge and seizing the opportunity to expand their professional practices, but also that the hypertensive patients of Maryland will be the primary beneficiaries of the Coordinated High Blood Pressure Control Program of Maryland.



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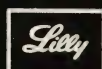
**1954** Lente® Iletin

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# "Security" is Spring Regional Theme



The panel discussion on security included contributions from (left to right) William Roessler, Assistant States Attorney; Gary Childs, Baltimore City Police Department; Steve Fink, Anne Arundel Co. Police; John Santana, Anne Arundel County Police; Robert Bickel, DEA Group Supervisor and Jerry Finley, Regional Trade Associate for Smith, Kline and French who sponsored the program.



Irving Kamenetz asks the panel a question about security in the Pharmacy. The 1980 Spring Regional meeting was held March 27, 1980 at Meushaws Inn and Restaurant.

— Photos courtesy Paramount Photos —



District Wholesale Drug Corporation of Landover, Maryland, was among the top wholesale drug companies in the nation singled out in the 29th annual Pro Brush Company football-theme awards program, held during the National Wholesale Druggists Association (NWDA) marketing conference (March 9-12) at the Hyatt Regency Hotel in Atlanta. Philip Levin (center), vice president of District Wholesale's parent company, Spectro Industries, Inc., accepted Pro's fourth-place award for Northeast-Division highest average volume per salesman in the houses with seven or more salesmen. Flanking him and presenting the award are Joe Theisman (left), Washington Redskins quarterback, and John P. O'Donnell, Vistron vice president and Pro Brush general manager.



I. C. System, Inc., the association approved collection firm, has appointed Ken DiPrima to the post of regional manager with responsibility for all I. C. sales and service activities throughout Delaware, the District of Columbia, Maryland and New Jersey.

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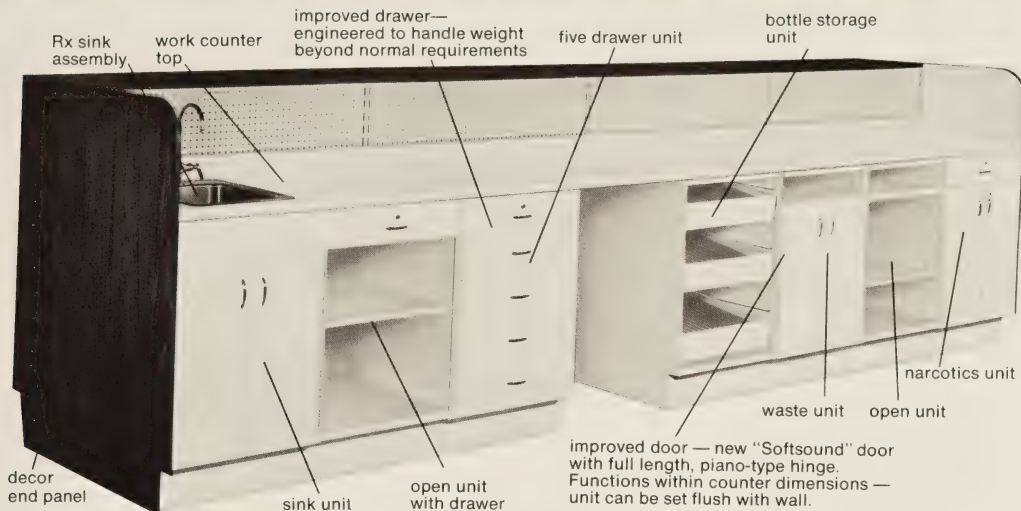


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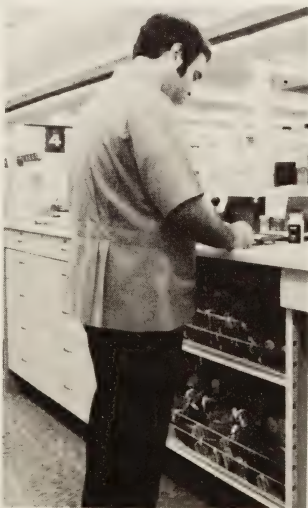
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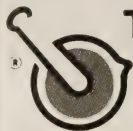


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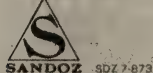
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# Abstracts

## DISODIUM CROMOGLYCATE:

Systemic mastocytosis is a condition in which mast cells accumulate and release histamine. The reaction can be either localized or systemic, but often gastrointestinal symptoms are evidence. Disodium cromoglycate was administered orally and symptoms of gastrointestinal distress were decreased. Even though only 1% of the drug is absorbed, some systemic benefit was noted. *N ENG J MED*, Vol. 301, #9, p. 465, 1979.

## CYCLOSPORIN A:

Cyclosporin A is a powerful immunosuppressive agent which does not produce leucopenia or cushnoid changes as do the conventional agents such as cyclophosphamide and prednisone. The drug seems to be quite effective in preventing rejection of transplanted tissue, but administration has been associated with a high incidence of lymphoma. More research is planned to see if this threat of lymphoma is real or if it has only been a chance observation. *LANCET*, Vol. II, #8146, p. 779, 1979.

## INSULIN:

Insulin has been determined to be concentrated in tissues other than the pancreas. The presence of insulin in the renal tissue has evoked discussion as to its origin. Some investigators feel that the insulin is actually synthesized by the renal tissue and that it is not a product of the pancreas. The role of insulin in the body is apparently not yet completely understood. *J AM MED A*, Vol. 242, #13, p. 1345, 1979.

## NIACIN PREPARATIONS:

A difference in the side-effects of niacin was noted to occur in different products. Brand name products produced more side effects than did generic name preparations. Although tolerance usually develops to the flushing and itching caused by the drug, some feel that the generic drug does not produce adequate blood levels and thus less toxicity. *J AM MED A*, Vol. 242, #11, p. 1197, 1979.

## HEPATITIS B:

Hepatitis B is thought to be spread via contaminated needles (piercing of ears, tattooing, etc.) and by sexual contact. Another way in which the virus apparently spreads has been found. It was noted that the virus can be found in insects like the mosquito and the common bed bug. These insects ingest blood from a patient with the disease and transfer it to another patient when they bite the second person. Since this type of spread can be controlled, more work will be done in the area of insect control. *BR MED J*, Vol. 2, #6193, p. 752, 1979.

## AMINOGLYCOSIDES:

Aminoglycoside antibiotics have long been known to produce renal toxicity. Studies in rats were utilized to compare the relative renal toxicity of gentamicin (Garamycin), netilmicin, and tobramycin (Nebcin). Investigators found

that netilmicin and tobramycin were less toxic than gentamicin with netilmicin being the least toxic of the three aminoglycosides. *J PHARM EXP*, Vol. 210, #3, p. 334, 1979.

## IMPROMIDINE:

A new specific H-2 agonist has been synthesized and it is being tested by Smith, Kline and French, Inc. The drug, impromidine, is an effective gastric acid stimulant, but does so without producing the cardiovascular effects seen when histamine is used. The drug will be useful in diagnosing abnormalities in gastric acid secretion rates. *J PHARM PHA*, Vol. 31, #9, p. 577, 1979.

## WARFARIN VS. HEPARIN:

Warfarin (Coumadin) has been used in the place of heparin in patients who were thought to be likely to develop deep venous thrombi. The low dose of heparin has been found to be of some value in preventing the occurrence of venous thrombi, but the patient has to ultimately be removed from the heparin and started on warfarin therapy. In this study, sodium warfarin was used initially in place of the low dose heparin and was found to be more effective than the heparin in preventing development of the deep venous thrombi. The likelihood of hemorrhage was also greater with warfarin, but a new study may produce a dosage regimen which will be effective as the former one but with less toxicity. *N ENG J MED*, Vol. 301, #16, p. 855, 1979.

## PHENTOLAMINE:

Phentolamine is an alpha-adrenergic blocking agent which has been used as a diagnostic agent and as an antihypertensive agent. Its role in the treatment of hypertension is minimal because the drug has a wide variety of side-effects including stimulation of beta-adrenergic receptor sites. The drug has been found to potentiate the effect of streptozocin, a drug used experimentally to induce the signs of diabetes mellitus in laboratory animals. Phentolamine is thought to exert this effect via a mechanism other than alpha blockage or vasodilation. *J PHARM PHA*, Vol. 31, #9, p. 598, 1979.

## TIMOLOL:

Timolol (Timoptic) is currently approved for ophthalmological use in this country. In order to test the drug systemically, it was administered to patients and the results were compared to those seen in volunteers who received propranolol (Inderal). Timolol was found to be equipotent to propranolol, but not offer any advantage over the other non-specific beta-adrenergic blocking agent. *CLIN PHARM*, Vol. 26, #3, p. 330, 1979.

## DIGITOXIN-SPIRONOLACTONE INTERACTION:

Spironolactone (Aldactone) is used in treating digitalis toxicity because it causes retention of potassium ions and thus helps alleviate the symptoms of digitalis toxicity. Investigators have recently shown that the administration of the diuretic will also enhance the biliary excretion and the rate of metabolism of digitoxin. *DRUG META D*, Vol. 7, #5, p. 280, 1979.

Excerpted from PHARMACEUTICAL TRENDS, published by the St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor and Leonard L. Naeger, Ph.D., Associate Editor.

# Class of '81

---

Albany College of Pharmacy  
Union University, Albany, N.Y.

---

...after a busy day at North Chicago.



Recently, these young people, all pharmacy students, spent a very full day at Abbott Laboratories.

They were visitors. Their behind-the-scenes introduction touched bases in research, development and production.

A couple of things happened to them. They left with a better understanding of just what goes into a product. At some point that may make it a little easier to answer a patient's question about a pharmaceutical.

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Most of these visitors will be practicing pharmacists and are better equipped to discuss drug manufacturing than they were prior to their Abbott visit.

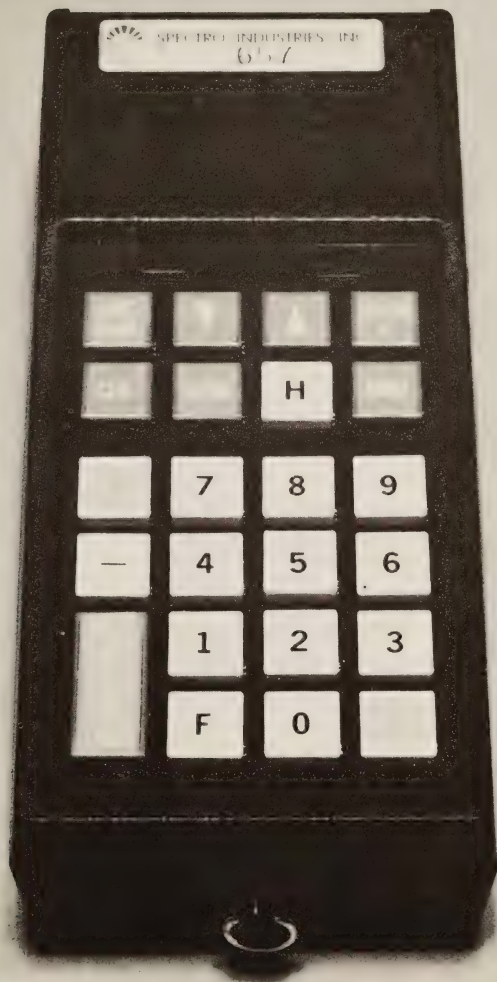
We think that makes it a day well spent for our visitors, for us — and for the person on the other side of the counter.



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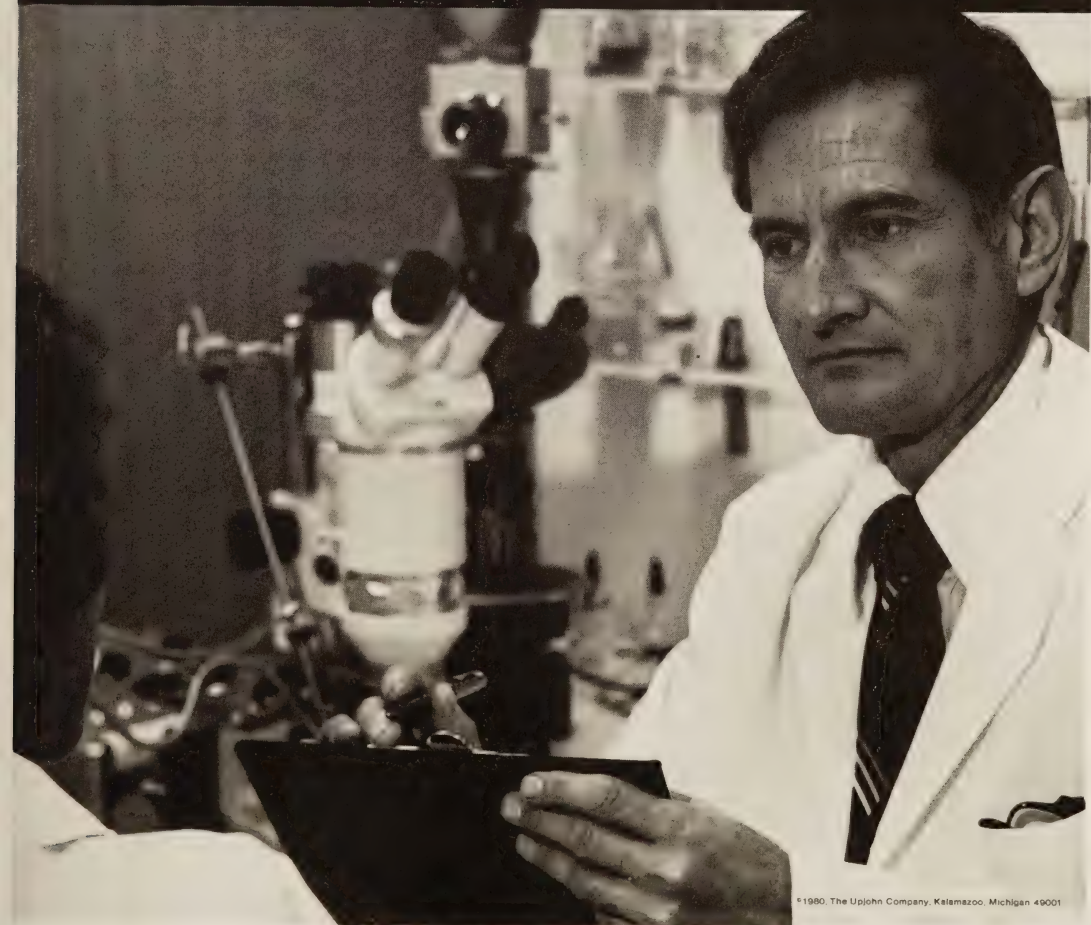
As a young pharmacist, Sherm Kramer was fascinated by drug compounding. Now at Upjohn as a Research Head, Pharmacy Research, Sherm directs pharmacists/scientists who develop every aspect of a new drug—purity, potency, bioavailability, shape, color, shelf life. Then they test it, prove it, and transfer their data, experience and confidence for scale-up to commercial production.

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R



The pharmacy "candid camera" strikes again! Toni Plucinski, a graduating fifth-year pharmacy student participated in a recent fitting class.



Don Fedder demonstrates the fitting technique to the class. The Camp Company supplied the equipment for the demonstrations and a pharmacy Continuing Education Seminar which was also presented in the basement of the Kelly Memorial Building.



Monti Monticelli (left) representing the Merrill National Company, presents an elaborate pharmacy print as a gift to the Association to M.Ph.A. President Ronald Lubman.



The SAPHa chapter held a successful "60's Coffeehouse" in the Kelly Memorial Building featuring live entertainment. Over 150 students, faculty and friends attended.

This picture space  
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With more than 10 million chlordiazepoxide HCl scripts per year...

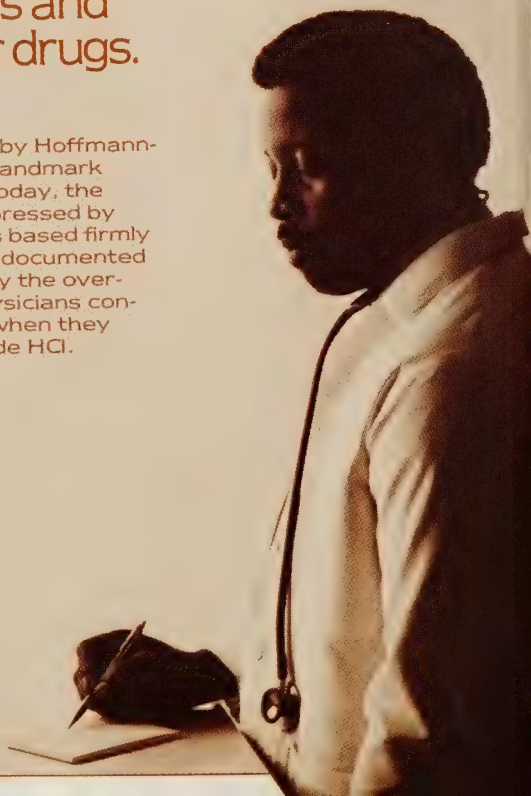
# Why do the overwhelming majority of physicians specify Librium®?

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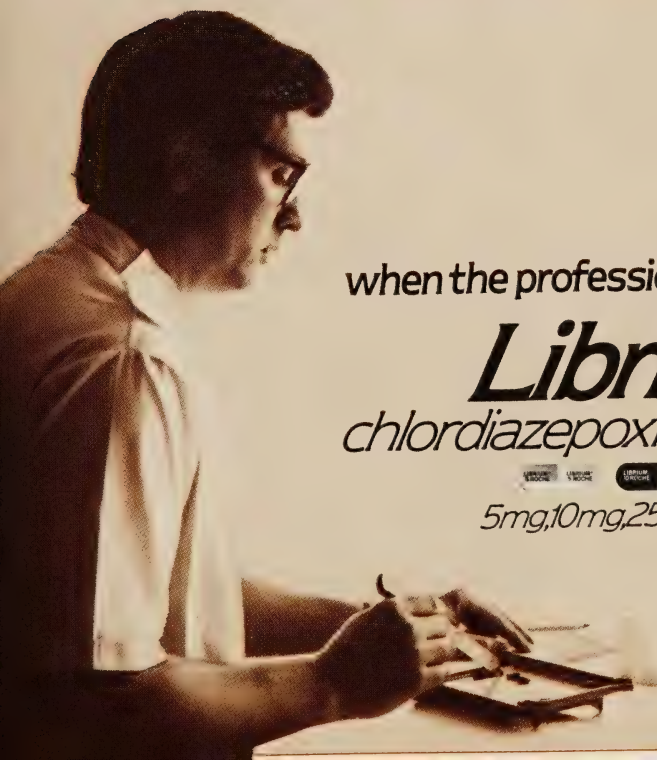




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when the professional choice is yours

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*5mg, 10mg, 25mg capsules*

Please see next page for  
summary of product information.

# Librium® 5mg, 10mg, 25mg capsules chlordiazepoxide HCl/Roche

Please consult complete product information, a summary of which follows:

**Indications:** Relief of anxiety and tension occurring alone or accompanying various disease states. Efficacy beyond four months not established by systematic clinical studies. Periodic reassessment of therapy recommended.

**Contraindications:** Patients with known hypersensitivity to the drug.

**Warnings:** Warn patients that mental and/or physical abilities required for tasks such as driving or operating machinery may be impaired, as may be mental alertness in children, and that concomitant use with alcohol or CNS depressants may have an additive effect. Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported.

**Usage in Pregnancy:** Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

**Precautions:** In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

**Adverse Reactions:** Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

**Usual Daily Dosage:** Individualize for maximum beneficial effects. *Oral—Adults:* Mild and moderate anxiety and tension, 5 or 10 mg t.i.d. or q.i.d.; severe states, 20 or 25 mg t.i.d. or q.i.d. *Geriatric patients:* 5 mg b.i.d. to q.i.d. (See Precautions.)

**Supplied:** Librium® (chlordiazepoxide HCl) Capsules, 5 mg, 10 mg and 25 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available singly and in trays of 10. Libritabs® (chlordiazepoxide) Tablets, 5 mg, 10 mg and 25 mg—bottles of 100 and 500. With respect to clinical activity, capsules and tablets are indistinguishable.



Roche Products Inc.  
Manati, Puerto Rico 00701

## PMA Reports these New Drugs

**'Cerubidine'** (daunorubicin hydrochloride) — A new injectable drug to treat acute non-lymphocytic leukemia was researched and developed by Ives Laboratories, Inc. (New York, NY) and approved for marketing by the FDA in December. Used as a single agent, Cerubidine has produced complete remission rates of 40 to 50 percent and in combination with cytarabine (another cancer remission drug) has led to complete remission rates of 53 to 65 percent. The drug should not be started in patients with pre-existing drug-induced bone marrow suppression unless the benefit from such treatment warrants the risk.\*\*

• • •

**'Loniten'** (minoxidil) — Available for the treatment of severe hypertension that is difficult to control, Loniten was researched and developed by The Upjohn Company (Kalamazoo, MI) and approved by the FDA in October. It relaxes and enlarges the arterioles, the body's smallest blood vessels, so that blood flows through them more easily. Most people with high blood pressure do not need the drug. Because of the potential for serious adverse effects, it should be taken only when a doctor decides that the patient's blood pressure is severe and other medicines are not working as intended.\*\*\*

• • •

**'Demser'** (metyrosine) — A new drug to treat a rare but life-threatening condition called pheochromocytoma was approved by the FDA in October. While fewer than 1,000 Americans are afflicted each year with this ailment, Merck Sharp & Dohme (Div. of Merck & Co., Inc., West Point, PA) developed 'Demser' in response to requests from medical specialists. The drug is designed to control drastic blood pressure increases caused by a rare tumor of the adrenal gland. It is not intended for the treatment of the common kind of high blood pressure.\*\*

• • •

**'Direct Current Bone Growth Stimulator'** — A device that uses electrical current to promote healing of bone following fracture nonunion (bone broken completely apart) caused by trauma has been developed by Zimmer USA Inc., Warsaw, IN (subsidiary of Bristol-Myers Co., NY NY). Approved by FDA in November, it appears to be particularly useful in treating nonunions which are resistant to other conventional methods. Thus, bone grafting and repeated surgery, often required for such fractures, can be avoided.

• • •

**'ISOMUNE-LD'** — A low cost test for the early diagnosis of heart attacks has been developed by Roche Diagnostics, division of Hoffmann-La Roche Inc., Nutley, N.J. Approved by the FDA in October, it identifies the presence of LDH-1 isoenzyme, a substance liberated by dying heart muscle cells into the adjacent small veins. The test can be performed in any hospital laboratory at a cost of approximately one dollar for reagents — substantially lower than the cost of an electrophoresis test for similar diagnoses.\*\*



## Classified Ads



Classified ads are a complimentary service for members.

### Available from the MPhA Office

- Notification for the patient under the Drug Product Selection Law.
- Heart Shaped Stickers — no charge
- Coupon Redemption Service
- Information on the Blue Cross/Blue Shield Major Medical Health Insurance Program
- The Association's Employment Clearinghouse, helping pharmacists and employers find one another.
- I.C. collection help
- Information on the NEW USP/NF on sale from MPhA.

For these and many other services, contact Sharon at the MPhA Office. (301) 727-0746.

### — WANTED —

Pharmacist seeks employment in retail pharmacy — also wants responsibility in store. Contact MPhA office and send replies to Box 101.

TO SELL — York and Padonia Roads — Store in busy shopping center for professional pharmacy — KLMB Realtors 727-8300.

### ATTENTION

We are looking for a supply of the discontinued SKF "Eskabarb" for a special patient. Pharmacists who have a supply in stock are requested to contact Dr. Ralph Shangraw at the School of Pharmacy (301) 528-7590 for details.

### PHARMACIST WANTED

Partnership opportunity, to open in April in Frederick, Md. Contact Box 102 at M.Ph.A. office. Resume requested.

### PHARMACISTS:

Rite Aid Corporation, the Nation's fastest growing pharmacy chain, with over 100 Pharmacies in Maryland, has openings for full or part-time Pharmacists. If you're interested in a career-position in pharmacy, consider the Rite Aid Corporation. Our Pharmacists are given the opportunity to practice pharmacy in a professional atmosphere, as well as the chance to advance thru the ranks to mid and upper management positions. We also offer the most complete company paid fringe benefit package in the industry today including — Blue Cross/Blue Shield, Major Medical, Life Ins., Short & Long Term Disability, Malpractice Ins., Paid Holidays & Vacations, Cont. Education, and an individual Retirement Acct. If interested please contact: Jim Kirkwood, RPh, at 301-825-8352. Or write him at: 3110 Quail Hill Drive, Midlothian, Va. 23113.

### FOR SALE

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### CONDOLENCES

LAMPA expresses condolences to Mr. Irvin Kamenetz on the loss of his wife Miriam.

### GET WELL

LAMPA wishes a speedy recovery to Mrs. Ben Friedman.

## calendar



**May 13** — Balassone Lecture, Medical School Teaching Facility — 8 PM "Impact of Government Regulations" — Dr. Raymond Gosselin.

**May 18** — Class Reunion — Classes of 1965-1969, Kelly Building, 7 to 10 PM

**May 20** — Continuing Education — Rite Aid — Holiday Inn, Loch Raven, 9 PM

**May 28** — Graduation Banquet, Alumni Assn., Eudowood Plaza

**June 15-19** — MPhA CONVENTION — CAROUSEL HOTEL, OCEAN CITY

**June 20-22** — MSHP 15th Annual Seminar, Ocean City — "Quality Assurance/Serving the Patient"

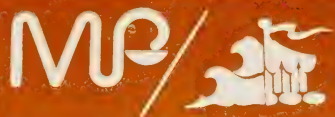
**June 24, 25, 26** — State Board Exams

**November 9** — "Mame" Burne Brae Dinner Theatre

**October 26** — 7 days/8 nights — Fly to Miami, Fla. & then cruise from there to Caribbean (three Islands)

Every Sunday Morning at 6:15 a.m. listen to Charles Spigelmire on WCAO broadcast the Pharmacy Public Relations Program "Your Best Neighbor," the oldest continuous public service show in Baltimore.





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## Program At A Glance

**SUNDAY**  
June 15

Registration open at 12:00 Noon (rooms available at 3:00 p.m.)

Tennis, Golf, Swimming & Ice Skating

9:30 p.m. *Welcome Cocktail Party*

**MONDAY**  
June 16

9:30 a.m. Open General Session — House of Delegates — First Session — Officers' Reports. *Lampa — Brunch Meeting and Fashion Show*

6:30 p.m. *Crabfeast and chicken at Berlin Fire Hall — Square Dance*

**TUESDAY**  
June 17

9:00 a.m. House of Delegates — Second Session to Election of Nominees to Board of Pharmacy noon Nomination of Officers and Trustees for Mail Ballot — *Lampa Board Meeting*

**WEDNESDAY**  
June 18

9:00 a.m. "PROFESSIONAL COMMUNICATIONS IN PHARMACY" by Robert Henry. A program specially designed for the MPhA. An experience you will not forget — sponsored by McNeil

6:00 *Cocktail Party — Annual MPhA Banquet awards and Installation of Officers with special program*

**THURSDAY**  
June 19

9:00 a.m. "ESTATE PLANNING" by Hay Associates Management Consultants. Edd Hyde's presentation was standing room only at the NARD convention. A program of interest to Pharmacists and Spouses. Sponsored by SKF.

MPhA Convention



at

the

**Carousel**

Ocean City, Maryland

June 15-19, 1980

Robert Henry



**THE  
MARYLAND  
PHARMACIST**

Official Journal of  
The Maryland  
Pharmaceutical  
Association

JUNE 1980  
VOL. 56  
NO. 6



**Ophthalmic Use of Guanethidine in Glaucoma**

*— Robert C. Edwards*

**The Lilly Digest for Hospital and Community  
Pharmacy**

**Impact of Government Regulations on the Practice  
of Pharmacy**

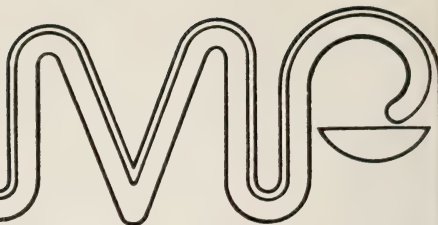
*— Raymond A. Gosselin*

**Ibuprofen and Dysmenorrhea**

*— Lynda H. Oderda*

# THE MARYLAND PHARMACIST

650 WEST LOMBARD STREET  
BALTIMORE MARYLAND 21201  
TELEPHONE 301/727-0746



JUNE 1980

VOL. 56

NO. 6

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DAVID A. BANTA, *Editor*  
SHARON SPIES, *Assistant Editor*  
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Delivered to the 1980 Convention  
Ocean City, Maryland

This year has been a very successful year for the MPhA, as have been the past several. Our association has moved forward in many ways.

We have attained the greatest numbers of members in quite a few years. It is gratifying to see so many employee pharmacists, younger pharmacists and students taking a part in our Association. Frank Blatt and Charlie Spigelmire should be given a vote of thanks for helping to make this possible.

On the financial side, we are operating with a budget that enables us to again add to our reserves and build equity for future contingencies. Our daily expenses are watched very closely by Dave Banta, thus ensuring us of an economical operation.

The third party prescription plans are still not paying what I feel, as a store owner, I should be getting due to the extra work involved and the delay in receiving payments; but I believe the past few weeks have shown several positive steps for us.

The Maryland Medical Assistance Program has given us its largest increase ever to \$2.95, one of the highest fees in the country, but, as we all know, part of this is being taken back by MAC prices on more and more items we dispense. It will also be a headache when the State begins returning prescriptions saying that the drugs are "ineffective" and the invoice cannot be paid. It seems we are over one hurdle but always find one more in front of us.

Your Association has already asked the State to conduct another prescription price survey to determine the cost of filling prescriptions in Maryland, so we will have statistical support when we ask for our next increase. The last survey, almost two years ago, indicated that \$2.84 was the break even point for filling a prescription. Since then, inflation has caught us all. The State has said a new survey will be done next year. The most positive step forward is the proposal we will receive from PDI, Inc., which will pay usual and customary plus a .25¢ handling fee. As far as I know this is the first statewide contract of this type anywhere.

We all must participate in this plan with a sense of fairness and faithfully give our usual and customary on all prescriptions we fill for PDI. The precedent set by PDI will not go unnoticed by other third parties.

The most negative report on third parties comes from a small plan in Baltimore that wants to go from \$2.15 to \$2.50 and has asked me to sign a contract agreeing to this arrangement until July, 1982. It is amazing that a group of program administrators would think that I would be unintelligent enough to sign such a contract. A fair and equitable fee is important to all pharmacists so that money will be available for salaries. Marvin Friedman has put much time and effort in to keeping us informed on third party developments. Marvin is now National Third Party Chairman for NARD.

Our trip to Aruba in January was our most successful in several years. My thanks to Elwin Alpern for his work on this

successful trip and his outstanding effort in putting this convention together. Elwin has more attractions on his schedule for us. The first is a Caribbean Cruise in late October, and the second is a repeat of our sell-out trip to Aruba.

The dinner theatre at Burn Brae was also a financial and social success. Elwin has planned another dinner theatre at Burn Brae for November and the show will be "Mame".

The membership benefit that I believe is the most useful to our members is our monthly newsletter, edited by Melvin Rubin. Mel does an outstanding job of keeping us informed on news of importance to the pharmacists of Maryland. Mel deserves a great deal of appreciation from all of us for the work he performs for the Association and the pharmacy community. Two weeks ago, he was recognized as the outstanding alumnus of the University of Maryland Pharmacy School for 1980.

Our legislature program went smoothly this year under the watchful eyes of Milton Sappe. Milton and Dave Banta made numerous trips to Annapolis to testify for the Association.

Two very sad notes were also in the Pharmacy news this year. The first was the tragic shooting of Pharmacist David McLarty in his pharmacy in October during a hold-up. Dave was a community pharmacist for over 20 years and will be missed by those of us that knew him.

The sudden death of Henry Seidman will be felt by all. Henry's life touched all in Pharmacy, from the Fraternity, to the School, to our Association. Few, if any, pharmacists in Maryland have not been affected by things Henry did or stood for. He was a leader in the true sense of the word.

A memorial lectureship fund will be set up to honor Henry. As a trustee for this fund, I will be asking you to send a contribution so that Henry can be remembered in a fitting tribute and so his work in continuing education can be carried forward.

The future for MPhA and Pharmacy looks bright at this time. The number of students and women becoming interested in the Association bodes well for the future. We are receiving increased requests for nomination for Association offices and requests to work on committees. Youth and beauty seem to be a winning formula for us.

I am sure under President-elect Lichter, the Association will continue its progress.

If all of us stay involved, I am certain pharmacy will remain strong and viable in Maryland. Involvement is the key. You must be involved in community, civic and social aspects of your community area. This will help give us political strength and good public relations and thus give us strength to grow and stay a healthy and respected profession.

RONALD LUBMAN

# Ophthalmic Use of Guanethidine In Glaucoma

by

Robert C. Edwards

In considering most pharmacologic entities, a thorough search of the literature will reveal unusual or little known therapeutic uses. Such is the case with guanethidine (G), a compound utilized in the United States for its antihypertensive effects. In Europe, it is also available as a topical ophthalmic solution which is utilized in the therapy of the ocular manifestations of hyperthyroidism, and in the management of glaucoma.

To briefly review the fundamental physiology of glaucoma, aqueous humor is secreted into the anterior chamber of the eye by the ciliary body. This secretion is an active process. The fluid then passes through the pupil, and is eventually removed from the anterior chamber at the angle formed by the junction of cornea and iris<sup>1</sup>. In glaucoma, an imbalance exists between the secretion and outflow of aqueous humor, with the result that it is formed more rapidly than it is removed. This results in an increase in intraocular pressure (I.O.P.). Both secretion and outflow of aqueous humor have been shown to be influenced by adrenergic stimulation<sup>2 3 4 5</sup>. Secretion is reduced by beta stimulation, and secretion and outflow are both increased by alpha stimulation.

The hypothesis that G might be useful in reducing I.O.P. was first postulated based on knowledge that other antiadrenergic agents did so. Its use was first investigated by Keates and his colleagues in 1960<sup>6</sup>. They administered the drug in ¼-½ mg./Kg. doses, I.V., in a single dose study, in patients with glaucoma of various etiologies. They found changes in I.O.P. in these patients ranging from a fall of 23.5 mm Hg. to a rise of 4 mm Hg., but their most notable finding was that, in patients who suffered from chronic open-angle glaucoma, I.O.P. was consistently reduced by G.

Topical use of G in the form of an eyedrop was reported by Oosterhuis<sup>7</sup> to be effective in chronic simple glaucoma which could not be controlled by other means. All of the patients he treated continued their other therapy, and added G 10% drops to their regimen. This brought about further decreases in I.O.P. in all of the eyes with open-angle disease, and in 8 of the 11 eyes involved, reduced the I.O.P. into the normal range. The maximum period of time reported in this study was two weeks; control was sustained for that period.

In chronic therapy, G has been shown to have a relatively short period of benefit<sup>8</sup>. In a study of 18 eyes, G was shown, alone, to have an initial marked effect which, after a full month of therapy, had returned to or near baseline.

The action of G in glaucoma has been demonstrated not to correlate to changes in systemic blood pressure<sup>6</sup> or with mechanical effects on the pupil<sup>6 7</sup>. Injection of G into the vitreous body of rabbit eyes produced a decline in I.O.P. on observations made at 3 and 6 hours following injection, but significantly increased outflow only at the 6 hour measure-

ment<sup>8</sup>. In a human study<sup>9</sup>, use of 10% G drops demonstrated, using pretreatment I.O.P. and outflow values as control, that over a period of time following instillation of drops I.O.P. became progressively lower, while the coefficient of outflow, initially decreased, began to return toward the original baseline over the same time period. The results of both the rabbit and human studies show that changes in I.O.P. occur which cannot be fully explained in terms of increases in outflow. Based on the knowledge that I.O.P. is influenced by a balance between secretion and outflow of aqueous humor, this demonstrates that G exerts an influence on both of these factors.

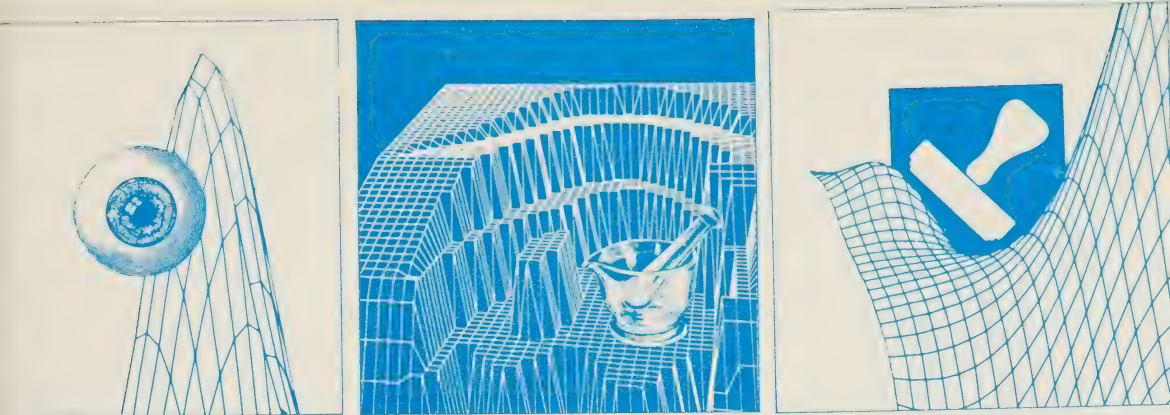
The rabbit study mentioned above<sup>8</sup> also revealed that administration of G, either systemically or as a local injection, brought about a marked and sustained depletion of catecholamines from the ocular tissues. Based on the findings of catecholamine depletion and the fact that G mimics the effects of topical catecholamines in the eye, it was reasoned that a probable mechanism of action was supersensitization of the ocular tissues to the effects of adrenergic stimulation<sup>5</sup>.

On this basis, a group of investigators<sup>5</sup> decided to place 23 eyes on BID therapy with G 5% plus epinephrine 1%. With combination therapy, the decline in I.O.P. was sustained well after one month of therapy, and in fact, by the time the study was published, 17 months of successful therapy had been carried out in one patient. The degree of decline in I.O.P. seen with the combination was greater than that seen with either agent alone.

Since the time of the initial combination study, virtually all research concerning ophthalmic G has involved G-epinephrine combinations. One investigator<sup>10</sup> treated 35 eyes, none of which was adequately controlled with conventional therapy, by stopping all prior treatment and in its place instituting G and epinephrine, one drop of each, BID. By use of this regimen alone, he controlled 19 eyes for 2 years, at which time another 4 eyes went out of control and were dropped from the study. A total of 6 years follow-up found 43% of the eyes in his series controlled, which may seem unremarkable until it is recalled that control was found to be impossible in all of those eyes on maximal medical therapy before the substitution of G-epinephrine.

The emergence of side effects has resulted in numerous trials of reduced concentrations of G and epinephrine. It is notable that serious side effects such as corneal changes and systemic effects are relatively rare<sup>7 10 11 12 13 14 15</sup>, and the corneal changes that have been noted to occur have, in all cases, been found to be completely reversible. The most common adverse effects are ptosis and conjunctival hyperemia; these generally represented cosmetic problems





only. The frequency with which G had to be discontinued because of limiting side effects ranged from zero in one study using very low concentrations (G 1% with epinephrine 0.05 to 0.5%)<sup>16</sup> to 34% using the more conventional 3-5% G and 0.5-1% epinephrine, and discontinuation was more frequently for cosmetic reasons. If the data involving very frequent cosmetic objections are not considered, the conventional forms result in about a 10% discontinuation rate.

In the effort to reduce side effects, the most commonly used reduced concentration has been G 3% and epinephrine 0.5%.<sup>12 13 15 17</sup>. Single dose comparison of this with the 5% G-1% epinephrine combination showed the less concentrated solution to be equally effective, and a mean follow-up of 7 months shows the effect of the less concentrated formulation to be sustained<sup>12</sup>. In a further effort to reduce the complexities of glaucoma regimens, incorporation of both active compounds in the same solution has been studied, and found to be of equal<sup>13</sup> or greater<sup>17</sup> benefit when compared to separate instillation of the two active ingredients.

The smallest concentration of G-epinephrine combination tried has been G 1% and epinephrine 0.05 to 0.5%, depending on what level was necessary to control the I.O.P.<sup>16</sup>. The results of this study showed this concentration to be of equal benefit to the other G-epinephrine combinations, but over the course of 3 months, they had a drop-out rate of 42%, which is unexplained, and not taken into account when the conclusions are drawn; thus, this will certainly require further investigation before this level of therapy is routinely used.

Obviously, before any new form of therapy is accepted, it is appropriate to know how it compares with the more traditional forms of treatment for the particular disease in question. Comparison of G-epinephrine combinations to pilocarpine, in varying strengths, alone and in combination with epinephrine, showed the G-epinephrine combinations to bring about significant further reductions in the intraocular pressures than were obtained with the conventional treatment<sup>13</sup>.

The role of G in the therapy of glaucoma in the U.S. is clearly limited by the fact that this does not represent an approved indication for the drug. Nonetheless, it may be worthy of further investigation in as much as it has been shown beneficial in patients refractory to control by other means.

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This year's preliminary *Lilly Digest* report, based on 1979 operating statistics from 819 community pharmacies, indicates increasing cost-of-goods and expense figures that resulted in lower gross margin and profit. When the income and expense statement items are expressed as percentages of total sales and compared with *Lilly Digest* figures for 1978, they show that . . .

Total sales reached a new high of \$397,565 — \$52,263 (15.1 percent) over 1978 sales. This rate of increase is higher than the average annual growth rate of 7.9 percent observed during the past ten years. Prescription sales showed an 11.3 percent increase over the previous year's figure but were outdistanced by other sales, which advanced 19.1 percent. Total prescription sales accounted for just under one half of the community pharmacy volume at 49.5 percent (down from 51.2 percent in 1978).

The cost of goods sold rose, and the gross margin dropped to a twenty-year low of 34.2 percent of sales (down from 34.7 percent in 1978). Total expenses increased slightly to the 1976 and 1977 level of 31.5 percent of sales (up 0.1 percent). *The combined effect of these changes was an all-time low net profit figure (before taxes) of 2.7 percent of sales.*

Total expenses rose both in dollars and as a percent of sales (\$16,983 and 0.1 percent respectively above the 1978 level). Similarly, employee wages increased in dollars and rose to 12.0 percent of sales, up 0.4 percent from the previous year. The average proprietor's salary also was higher in dollars (by \$1,618) but fell as a percent of sales from 6.9 to 6.4 percent. Net profit declined 0.6 percent from 3.3 to 2.7 percent of sales, down \$816 from the 1978 figure. This was the largest single-year decline in net profit percentage since 1966. Total income (proprietor's salary plus net profit, before taxes) increased in dollars but dropped sharply as a percent of sales, from 10.2 to 9.1 percent in 1979.

Although prescription inventory and merchandise inventory required more dollars, both declined percentagewise (from 12.0 to 11.8 and from 21.2 to 21.0 percent of sales respectively). The prescription department's sales productivity moved up to \$8.47 per stock dollar (1.3 percent higher), while other merchandise productivity rose to \$4.76 from \$4.71 (up 1.1 percent).

For the first time in the past decade, the share of new prescriptions (up 957) grew to over 50 percent of total prescriptions dispensed. Renewed prescriptions dispensed were 21 over last year's figure. As a result, total prescriptions dispensed continued a two-year growth trend and attained a record high of 27,891, a gain of 978 prescriptions. The average prescription charge rose to \$7.05 during 1979, up 48 cents (7.3 percent) over the 1978 figure of \$6.57.

**Comment:** The GNP implicit price deflator, published by the Department of Commerce Bureau of Economic Analysis, which indicates the general price pressures retailers have faced in the overall operation of their businesses, may in part explain the sharp decline in gross margin and net profit before taxes. This index was 7.3 percent in 1978, rose to 8.8 percent in 1979, and is forecast to rise to 9.5 percent in 1980. This level of inflation suggests that retailers must devise means to accommodate product price increases rapidly in order to prevent a negative impact on their operating statements.

The following table summarizes the preliminary *Lilly Digest* report of the 1979 operating figures of 819 community pharmacies and compares these with the 1978 *Lilly Digest* averages from 1,556 pharmacies. The annual *Lilly Digest* will be completed and distributed in September, 1980.

Averages per Pharmacy		1979		1978		Amount and	
Sales		(819 Pharmacies)		(1,556 Pharmacies)		Percent of Change	
Prescription .....		\$196,708	— 49.5%	\$176,705	— 51.2%	+\$ 20,003	— 11.3%
Other .....		200,857	— 50.5%	168,597	— 48.8%	+\$ 32,260	— 19.1%
Total .....		\$397,565	— 100.0%	\$345,302	— 100.0%	+\$ 52,263	— 15.1%
Cost of goods sold .....		261,747	— 65.8%	225,651	— 65.3%	+\$ 36,096	— 16.0%
Gross margin .....		\$135,818	— 34.2%	\$119,651	— 34.7%	+\$ 16,167	— 13.5%
Expenses							
Proprietor's or manager's salary .....	\$ 25,514 — 6.4%	\$ 23,896	— 6.9%	+\$ 1,618	— 19.7%		
Employees' wages .....		47,769	— 12.0%	39,914	— 11.6%	+\$ 7,855	— 19.7%
Rent .....		9,884	— 2.5%	8,436	— 2.4%	+\$ 1,448	— 17.2%
Miscellaneous operating costs .....		42,000	— 10.6%	35,938	— 10.5%	+\$ 6,062	— 16.9%
Total expenses .....		\$125,167	— 31.5%	\$108,184	— 31.4%	+\$ 16,983	— 15.7%
Net profit (before taxes) .....		\$ 10,651	— 2.7%	\$ 11,467	— 3.3%	—\$ 816	— 7.1%
Total income .....		\$ 36,165	— 9.1%	\$ 35,363	— 10.2%	+\$ 802	— 2.3%
(Net profit plus proprietor's salary before taxes)							
Value of inventory at cost and as a percent of sales							
Prescription .....		\$ 23,218	— 11.8%	\$ 21,133	— 12.0%	+\$ 2,085	— 9.9%
Other .....		42,182	— 21.0%	35,809	— 21.2%	+\$ 6,373	— 17.8%
Total .....		\$ 65,400	— 16.5%	\$ 56,942	— 16.5%	+\$ 8,458	— 14.9%
Annual rate of turnover of inventory .....		4.0 times		4.0 times		no change	
Number prescriptions dispensed							
New .....		13,974	— 50.1%	13,017	— 48.4%	+	957 — 7.4%
Renewed .....		13,917	— 49.9%	13,896	— 51.6%	+	21 — 0.2%
Total .....		27,891	— 100.0%	26,913	— 100.0%	+	978 — 3.6%
Average prescription charge .....		\$7.05		\$6.57		+\$ 0.48 — 7.3%	

# Lilly Digest

## Hospital

This report includes selected operating data tabulated to reflect a composite profile of the "average" hospital pharmacy in the United States for 1979. Because this hypothetical pharmacy is derived mathematically from a broad range of information, the figures may be too general to use for direct comparison. However, trends can be determined by comparing the data with similar figures from the 1978 Survey of operations.

The data show that the average hospital had a bed capacity of 261 in 1979 — essentially unchanged from last year. Census also remained the same at 73 percent during 1979. Admissions increased 8.8 percent (from 8590 to 9344), which resulted in a shorter period of patient stay — 7.4 days. The largest segment of reporting hospitals was again private (nonprofit), general institutions.

The number of hours worked by pharmacists and technicians as well as the hours the central pharmacy was open rose during the 1979 reporting period. Overall, 2.7 hours of pharmacist time and 2.5 hours of technician time were required for each hour the central pharmacy was open during 1979. A comparison of total hours worked per week by the pharmacy staff in 1979 with similar data for 1978 reveals that total pharmacy staff requirements increased somewhat.

The dollar values reported for inventory (up 6.5 percent) and purchases (up 14.1 percent) were higher during 1979. The estimated turnover rate continued to show significant growth, from 5.3 to 5.7 times. It is interesting to note that, if the turnover rate had remained at 5.3 during 1979, inventory costs at \$99,159 would have been over \$7000 higher and shown an

increase of 14.7 percent. That hospital pharmacy managers exercised control over inventory, as demonstrated by the increased turnover rate during 1979, is particularly gratifying because last year was one of significant price increases.

Inventory and purchases on a per-bed basis were also higher than those reported in last year's Survey. However, because the data do not take inflation into account, it was impossible to determine the extent of its impact on inventory and purchases figures. Therefore, the amounts shown do not necessarily reflect expanded usage of drugs and related items by hospital patients.

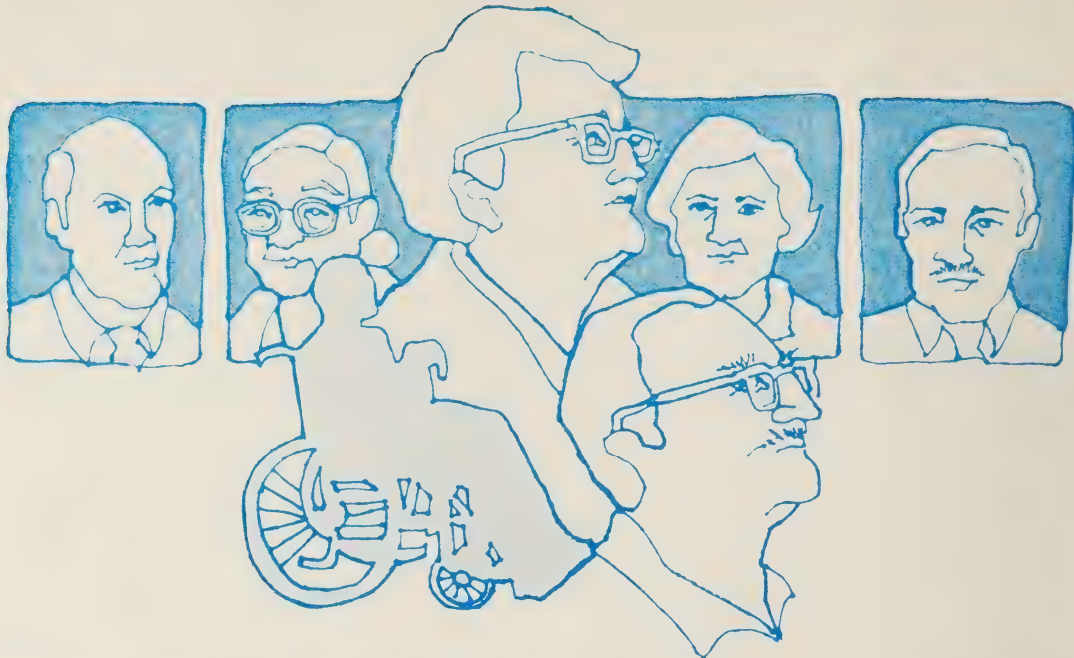
Services offered by over 50 percent of hospital pharmacies responding to the Survey remained unchanged from last year. Drug information services showed the highest growth rate during a two-year period, with just over 51 percent reporting this service in 1977 as compared with almost 79 percent for 1979, which indicates that hospital pharmacists are expanding clinical services.

A comparison of selected operating statistics over the four-year period for which the *Lilly Hospital Pharmacy Survey* has been in existence demonstrates the following trends:

- Pharmacy hours open have risen from 74 to 86.5 (an increase of 16.9 percent).
- Pharmacist hours worked per week have jumped from 152 to 235 (up 54.6 percent).
- Technician hours worked per week have varied but have increased overall from 129 to 220 (a 70.5 percent rise).
- Inventory investment has increased 34.2 percent, and the annual four-year growth rate is 8.5 percent.
- Monies spent on purchase rose 61.5 percent over the four-year period, with an annual growth rate of 15.4 percent.

The 1980 edition of the *Lilly Hospital Pharmacy Survey* will be distributed in September of this year.

	1979 (1485 hospitals)	1978 (1721 hospitals)	Percent of Change
Bed capacity .....	261	260	No change
Class .....	Private (nonprofit)	Private (nonprofit)	
Profile.....	General	General	
Census (beds occupied).....	73%	73%	No change
Admissions.....	9344	8590	+8.8%
Length of patient stay .....	7.4 days	8.0 days	
Hours central pharmacy open/week .....	86.5	85	+1.8%
Pharmacist hours worked/week .....	235	219	+7.3%
Technician hours worked/week .....	220	206	+6.8%
Inventory .....	\$92,119	\$86,487	+6.5%
	\$1.32/Patient day \$353/Bed \$485/Occupied bed \$9.86/Admission	\$1.27/Patient day \$333/Bed \$456/Occupied bed \$10.07/Admission	
Purchases .....	\$525,542	\$460,667	+14.1%
	\$7.56/Patient day \$2014/Bed \$2766/Occupied bed \$56.24/Admission	\$6.74/Patient day \$1772/Bed \$2461/Occupied bed \$53.63/Admission	
Inventory turnover rate .....	5.7 times	5.3 times	
Floor area (central pharmacy).....	1493 sq. ft.	1417 sq. ft.	
Services offered by over 50% of pharmacies.....			
Monitoring patient profiles	Drug information services	Monitoring patient profiles	Drug information services
Monitoring drug interactions	Drug therapy consultation	Monitoring drug interactions	Drug therapy consultation



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Bonnie Levin, Pharm.D., moderated the Seminar on "Antibiotics: Newer Concepts in their Usage" which was presented by the Continuing Education Coordinating Council on May 1, 1980.



An overflow crowd came to the Antibiotics seminar which was sponsored by the Schering Corporation and held at the Pikesville Hilton Hotel.



Jacqueline Lucy, representing the Poison Control Center, delivered a presentation on poisonous plants to the members of the Upper Bay Pharmaceutical Association.



(left to right) Ronald Telak, President of the Maryland Society of Hospital Pharmacists; Ronald Lubman, President of the Maryland Pharmaceutical Association and William Kinnard, Jr., Dean of the School of Pharmacy, each sign a "letter of agreement" which formed the Pharmacy Continuing Education Coordinating Council.



Donald Stran (left), President of the Pharmacy graduating class of 1980, receives the Harry David Kaufman Fellowship Award for devotion to community service from David Banta, Executive Director of the M.Ph.A.

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# "Impact of Government Regulations on The Practice of Pharmacy"

By Raymond A. Gosselin, President  
Massachusetts College of Pharmacy  
and Allied Health Sciences

Presented at the Balassone Lecture

Government regulations have had a profound and generally negative impact upon the practice of pharmacy throughout the decade of the 1970's. With the coming of the new decade, hopefully a more enlightened attitude on the part of the regulators, may evolve as the mistakes of the 1970's are recognized, appropriately evaluated, and eventually revised or openly repudiated. I am an optimist, and believe in the long-term future of pharmacy, but I have to state that the mistakes of the 1970's may have caused serious damage to the profession and impeded its progress.

I am optimistic, for I believe that reasonable people will see the folly of the serious intrusion of government into what once was (and hopefully once again can be) a highly personalized relationship between dedicated health practitioners and ill people. I firmly hope that innovation and creativity may once again be possible for individual pharmacy practitioners, for this is how genuine progress can be attained.

After ten years of intensified government intervention and regulation, the profession of pharmacy has gained very little, if anything, in the way of professional status, and has lost much in the way of economic viability. The greatest paradox of all is that the public at large, the health consumers of this nation, will probably be shortchanged in the future as the quality of pharmaceutical service diminishes and the cost in taxes and insurance premiums goes up.

One of the government's own objectives of developing expanded cost-containing roles for pharmacists in the health care delivery system has been badly thwarted by the repressive and heavy-handed approaches of government programs such as Medicaid, MAC/EAC and forced genericism.

In the long run, pharmacy could well have been expected to play a major cost containing role in our nation's health care delivery system, not just saving nickels and dimes on cheap substitute drugs. It will be very difficult for us to accomplish this with our economic legs cut out from under us by ill-designed and poorly-implemented reimbursement plans and programs. Government, I believe, has done a particularly poor job of coming to grips with the reality of reimbursement for pharmacy services and products under the Medicaid program.

For example, even under the best of conditions, the use of average dispensing fees for reimbursement of pharmacy services, covers no more than 50% of the costs of all the

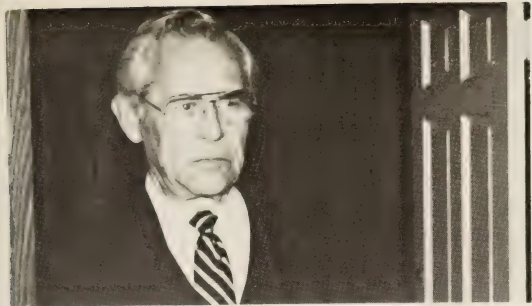
pharmacies in a given program. Often fee reimbursement is considerably less than the 50% percentile, as adjustments in fees fall far behind increases in the costs of doing business, and by using slipshod methods for establishing the fees in the first place.

On the cost of ingredients side of the equation, many MAC prices are at the 20th percentile of all the prices for a given drug entity. Sometimes they are even less. These absurd reimbursement levels apply to a segment of the total health bill which runs about 7%. When government officials are asked what is being done about controlling the costs of the remaining 93% of total health costs in the United States, we are told that medical and dental fees are generally being held to the 75th percentile and hospital costs are controlled at the 80th percentile. Pharmacy and the industry should have it so good!

As I see it, there have been a number of major mistakes in the past decade which I will label "the seven sins of the Seventies":

- 1) Use of the discriminatory fixed dispensing fee system as the basis for pharmacy reimbursement, and failure even to this date to appropriately deal with the critical matter of cost variations between pharmacies.
- 2) Improper and illogical utilization of a hybrid reimbursement system involving fees or usual and customary charges, whichever is lower, in the Medicaid program.
- 3) Unjustifiable application of the Maximum Allowable Cost (MAC) program to create generic markets where they did not previously exist.
- 4) Premature repeal of ant substitution laws and forced genericism before the full impact upon pharmacy, industry and the consumer could be evaluated.
- 5) Failure of the profession and its leadership to fully comprehend the sense, meaning and direction of the grass roots consumer movement in America and failure to harness its power as an ally.
- 6) Unsophisticated use of available data, lack of long-term evaluation of programs and biased and purposive research by government.
- 7) Poor interagency and federal/state coordination of programs on the one hand, and the absence of a meaningful coalition of the makers, marketers, prescribers, dispensers, monitors and users of prescription drugs on the other.

First let's talk about the impact of the reimbursement



Raymond A. Gosselin, President of the Massachusetts College of Pharmacy, presented the Balassone Memorial Lecture on May 13, 1980. The lecture was held at the Medical School Teaching Facility and was sponsored by the School of Pharmacy, the Alumni Association and the M.P.H.A.

regulations as they apply to pharmacists for their services.

The current method for determining reimbursements to pharmacists for dispensing prescribed drugs under the Medicaid program is a mixture of two systems which are statistically and philosophically incompatible. As a consequence, there is serious discrimination imposed against a large proportion of pharmacies and pharmacists.

"Usual and customary charges", one of the systems, is based upon the prices charged by a pharmacy to the general public — that is, non-Medicaid patients. Such prices are set by individual pharmacists such as to cover ingredient costs, overhead, services provided and a reasonable profit — and often to meet competition, irrespective of the impact on costs and profits. Costs vary from pharmacy to pharmacy based on the varying costs of doing business, and individual pharmacies have an inherently different total product mix based on the composition of their clientele. Pharmacists must periodically review prices in order to keep the prescription department solvent.

Individual pharmacies can calculate with reasonable accuracy an average price for all prescriptions dispensed over a given period of time and, by subtracting for the same time period the total cost of goods sold, the pharmacy can arrive at an average dispensing or professional fee for that particular pharmacy. These averages, however, vary from one pharmacy to the other.

This system, based on usual and customary charges with appropriately computed limits based on standard deviations and percentiles, could be, if used universally, a very effective and cost containing reimbursement system for pharmacy services under Medicaid, while appropriately recognizing store-to-store cost variations.

We must not confuse individually determined professional fees with third-party determined and set dispensing fees. They are entirely different concepts. Sadly, this distinction was apparently not well understood by many when the various third-party programs began to appear, when some in pharmacy endorsed the fee concept, much to the pleasant surprise of the third-party payors.

I know of no state, and certainly not the federal government, that has given the concept of an appropriately monitored and controlled usual and customary charges system of reimbursement a fair test. The availability of computers and the use of statistics in the United States is such that usual and

customary charges by pharmacies could be a workable system without the bias and discrimination inherent in the administered fee system.

The government should spend some money to do some pilot and comparative analyses of this system side by side with the fee system before rejecting it out of hand. Ideally, such a pilot would involve full participation of the profession and its leaders.

Third party payers, including Medicaid, obviously prefer for ease of administration to pay a single fixed fee or, in a few states, a limited variable fee. Seldom does the fee approximate the average fee for all pharmacies in the program. If accurate, at best such an average is the midpoint of a distribution of all the actual fees for individual pharmacies when ranged from low to high or from high to low.

Those whose costs are below the average obviously receive a windfall and those above the average are penalized for higher costs over which they may have no real control. There is an inherent unfairness in this system because pharmacies with above average costs are forced to subsidize the program while low cost operators reap unearned benefits.

It may be said that the above average pharmacies have the option of staying out of the Medicaid program, but this is an impracticality for most pharmacies, and a disservice to the public who need ready access to drug supplies, a problem which is increasing and will continue to increase as energy shortages reduce our mobility in America, and as the average age of drug users soars upward.

In order to deal with the problem of below average pharmacy "windfalls," Medicaid in 1977 instituted the so-called "lesser of" rule which introduced the usual and customary concept into reimbursement, but in a manner which further and more seriously discriminated against those many pharmacies legitimately operating at higher than average costs. Medicaid reimburses individual prescription claims at the "lesser of" cost of ingredients plus the state-set fee or the individual pharmacy's usual and customary charge.

The result is that Medicaid pays all usual and customary charges up to the limit of the fee (plus the cost of ingredients) *set by the state*. For low cost operators, a large proportion if not all of the prescriptions are covered, for they operate below the state computed or estimated average. The higher cost pharmacies, already operating above the state-set average fee, are now forced into further financial difficulty by cuts in reimbursement for prescriptions which happen to be, by virtue of their nature, low priced.

In the open (non-Medicaid) market low profit or revenue is compensated for by profits and revenues earned on those prescriptions which fall above the average. *It is the revenue and profit spread over all prescriptions which keeps the prescription department economically viable.* It is the total product mix which determines profitability.

In the Medicaid hybrid system, all pharmacies are deprived of the opportunity to be reimbursed fairly. Even where the dispensing fee might fairly reimburse the pharmacist's average costs, the imposition of the lower of usual and customary charge provision serves to reduce the pharmacist's average reimbursement below the level of the otherwise appropriate dispensing fee. Thus, on the average, the hybrid system necessarily reimburses over half of the



pharmacies below their costs.

The only recourse these pharmacies have is to elevate the lower usual and customary charges, which creates the disadvantage of increasing costs to both the general public and to the Medicaid program. This cannot possibly be perceived as a cost containing activity.

Further, the general public is double-taxed to support the Medicaid program — once in normal taxes and twice by carrying the burden of higher prices to subsidize the program. Sadly, many pharmacies which are valuable assets to our nation's health care delivery system are lost each year because their economic viability is destroyed in this unfortunate process.

To succumb to business competition is a risk every entrepreneur understands and takes. To fail because of an imposed government reimbursement scheme is quite another thing.

Now I'd like to move on to another one of the sins. The Maximum Allowable Cost (MAC) program was designed, ostensibly, to allow the government to be a prudent buyer in the Medicaid program. The justification was that the government should take advantage of the generally lower generic drug prices where they existed. Fair enough.

Following the report of the Task Force on Prescription Drugs, in 1968, there had been considerable movement in America to generic prescribing and the availability of multiple source products. This resulted not so much due to the report, but because of the workings of a natural business cycle. At approximately twenty-year intervals, brand or generic "domination" of the prescription market reverse themselves.

For example, in 1945 generic prescriptions accounted for about 40% of all prescriptions dispensed. By 1965, they had cycled down to a low point of under 5%. Since 1965, generics have been on the ascendancy and are likely to continue to grow until 1985 when a new reversal might be expected to take place. Given a free marketplace, the cycle for generics vs. brands is a function of the so-called technology or innovation cycle and its yield of patented new products. The behavior of purchasers, in many fields, also determines business cycles. In prescription drugs, individual purchases have not been a determinant. The government as a purchaser, however, is quite another matter.

The MAC program has gone well beyond its originally stated intention of taking advantage of existing generic markets. The government has intruded strongly into the free market system, and has altered it considerably.

Its unwarranted actions of forced genericism could well disrupt the normal brand-to-generic cycle, with serious long-term consequences. We will need the next cycle of new branded drug products if we hope to have an eventual new generation of generics following the turn of the century.

Savings of some magnitude were realizable in the original MAC program, but nowhere near the grand estimates stated by HEW back in 1976 when the program was introduced. Drugs such as ampicillin, tetracycline, penicillin-G, for example, were logical candidates for the MAC program, fulfilling the requirements of the program for "prudent buying" amongst an array of choices, widely and generally available to pharmacists.



Dean William Kinnard, Jr. (left) presided over the Lecture given by Dr. Gosselin.

When drug patents expire, some time is required before their generic counterparts establish themselves as being acceptable to the users of drug products — physicians, pharmacists and patients. There is, so to speak, a shakeout of those which cannot sustain themselves in the marketplace for any number of therapeutic or business considerations. It's a survival of the fittest situation.

Over time, such as with the drugs mentioned above, a rather large number of products become widely available, and at differing prices. When this is achieved, we have a "mature" generic market, to which a maximum allowable cost approach can be applied with some logic and justification.

In other cases drugs whose patents have expired can only be considered as "emerging" generic markets. This is when there are a number of substitute products available, but they have failed, on their own, to capture a significant share of market, and the market continues to remain dominated by one or more established products.

Considerable effort is required by the substitute products to establish themselves with users. In these cases, the MAC price should not be set so far below that of the dominant brands as to arbitrarily award a franchise to those failing to achieve market share on their own. In the spirit of not tampering with the free market system, maximum allowable prices should be weighted by the share of market as a suitable measurement of the relative acceptability of the products to physicians, pharmacists and patients.

Finally, we have the case of chlorthalidone (Librium) and propoxyphene (Darvon) when it would seem that the government indeed took a giant step of incursion into the free market.

Both of these products had shares of market exceeding 90% and, while their patents had expired, generic competition had not as yet begun to win for itself any appreciable share of market. Neither "mature" or "emerging," these products could be considered only as "potential" generic markets.

The government in essence became a marketing agent for low-price supplies, providing them through the MAC mechanism with a share of market which had not been earned by them via their own efforts, while the original suppliers had to continue their marketing efforts at their own expense to retain their share of market, putting them at a cost disadvantage to their government supported competitors.



The economic impact on "brands" is obvious and the right of professional choice for both physicians and pharmacists severely impaired.

These actions of the government in the MAC program forced the creation of an instant generic market, at the very costly expense of the free enterprise system, and the heavy intrusion of government into product selection at the expense of pharmacy.

Without this rather heavyhanded approach to prudent buying, the MAC program would very likely show very little in the way of savings for all the effort. Without Librium and Darvon, the studies on MAC savings now being released would tell quite a different story.

The MAC program is a powerful mechanism for forced genericism and, coupled with the ant substitution repeal movement, has changed the position and responsibility of the pharmacist. Under the ant substitution laws, the pharmacist was required to consult with the prescribing physician before substituting an alternative drug. This provided a structure and mechanism for effective collaboration by physician and pharmacist in the matter of drug product selection.

Given time, enterprising pharmacists could have developed some inventive approaches to true product selection within the structure. Unfortunately, the potential for a greatly improved professional role for pharmacy within this structure was never explored in an almost panic level haste to repeal the laws.

The model often used to justify repeal of ant substitution laws is that of the hospital where drugs are routinely purchased by generic name. The argument is obvious — if it works there, it will work in the ambulatory sector as well. There is a vast difference, however, between the workings of the institutional environment and the community environment. The institutional environment is highly structured, and every physician, pharmacist and other health care person involved in the treatment of a patient is fully knowledgeable and aware of what specific drug is used for each patient.

There is ongoing evaluation of the effectiveness of drugs, and those that fail to measure up are quickly deleted. It is a prime example of the "Health Team" approach, complete with checks and balances and informational feedback.

In hospitals, physicians, with the participation of pharmacists, are better able to do ongoing clinical evaluations of drug therapy response in this environment. Good drugs are separated from bad drugs. This is critical to good health care.

There is no such structure in community practice where 80% of prescription drug use lies, and it takes some real doing to forge a sound pharmacist/physician working relationship.

Emotionally, many pharmacists apparently saw the repeal of ant substitution laws as an escape from a type of bondage. Rather than rise to the challenge of developing an approach within the system, it seemed preferable to seek liberation from the physician, at whatever the cost — and it has cost a lot.

What has been the outcome? Every survey that I have seen relative to drug product selection since repeal indicates that pharmacist selection is indeed minimal. Pharmacists may have escaped from the bondage of the physician, so to speak, but have now become hostages of state bureaucratic

committees, commissions and formularies. How free, really, are pharmacists to exercise true professional judgment in today's environment?

One wonders just what professional status pharmacy has gained when the general rule seems to be, "Mr. Pharmacist, you may select any drug from this list of the cheapest drugs." Neither pharmacist nor physician selects under this situation. Whatever communication and feedback system might have been developed under a modified ant substitution system has been lost. There is a need for a workable structure in the ambulatory sector which will enhance or in fact require communication and information exchange between pharmacist and physician for the benefit of patients.

To whatever extent pharmacists are free to product select, it would seem to me there is a strong ethical obligation to inform the physician, under whose care the patient is, of that selection. In the case of medication for chronic conditions, at least, is also the obligation to monitor patient response, and to keep the doctor informed.

The structure should therefore encourage the pharmacist to monitor and consult with patients and, further, to relate back to physicians valuable clinical information concerning drug therapy.

The government suggests that health maintenance organizations are alternatives to the now generally abandoned former physician/pharmacist relationship. Perhaps they are, but I hope they are not the only alternatives.

Private enterprise and individual pharmacists and physicians need to invent and create workable systems of their own, but who is working on it? There must be some great minds in the profession, the associations or in academia to create innovative approaches.

Currently, there is some focus being given to the payment of pharmacists via a capitation system — that is, so many dollars paid to the pharmacist in advance, based on an estimated or historical number of patients. In order for the pharmacist to realize a profit, he must eliminate therapy or substitute cheaper drugs wherever possible. It would seem to me that the capitation system further encourages a breakdown in communication and working relationship between pharmacist and physician, and further denies the physician the knowledge he or she needs in order to function effectively as a practitioner of medicine.

The capitation system for pharmacy services, like the MAC program for drugs, will surely save somebody some money, but is it truly worth the cost to the profession as in each successive time period pressures to save even more money reduce the profession to eventual obliteration?

When the movement for ant substitution repeal surfaced early in the past decade, it quickly found support in the organized consumer movement. What was not understood or seen at the time, however, was that the organized consumer movement (as opposed to the rank and file, grass-roots-level consumer) had entirely a different motive on its mind than did pharmacy. The organized consumer movement had one basic goal, and that was to cut drug prices in whatever way that it could. It mattered not that an entire profession might suffer. The tactic was divide and conquer — and divide they did the pharmacist from the physician and the pharmacist from the traditional industry.

While there may have been some lip service given at the time, I for one do not believe that the organized consumer movement cared one iota about whether pharmacists would eventually gain a more professional role or not. In my judgment, the wrong alliance was formed. Better would have been an alliance of pharmacists, physicians and the industry to develop a better-thought-through alternative. An uneasy coalition between the militant consumer advocates and pharmacy brought about the repeal of antisubstitution laws quite universally, and quite quickly. Where are the consumer advocates today when pharmacy needs allies more than ever?

Rank and file consumers, on the other hand, are a very diverse group of individuals. About 135,000,000 of us in America legitimately take prescription drugs and, while there may be some evidence that we are an overmedicated society, perhaps that is a slogan that has become just a little too trite. I am amazed when I hear government officials and others speak proudly of the fact that in the last ten years, deaths from heart attacks have dropped 22%, infant mortality rate is at the lowest point it has ever been in our country, and that life expectancy has been increased to 73.2 years for the average American. Credit is given to better exercise, nutrition, diet and the government's programs in general.

Valuable as these efforts have been, what about the tremendous contribution of prescription drugs, pharmacy service and expert diagnosis? Drugs such as Valium, the antibiotics, Tagamet, and all the others have played a major role.

The rank and file consumer wants his and her rights to safety, knowledge and choice preserved and respected. An appropriate coalition of health care providers and suppliers can provide them these, if given the chance.

The last two "sins" concern the approach to regulation by the regulators. The concern, I believe, we should have as individuals and as health care professionals centers around the quality of the support data and information used to develop regulations.

Based upon my observations during two years of service as a member of the Pharmaceutical Reimbursement Advisory Committee in the MAC program, I am appalled at the lack of sophistication used in the analysis and presentation of the statistical data so critical to the planning and execution of that program. Much valuable data available to the government was never made use of, and what was used, handled often in a primitive or biased manner.

The FTC/FDA model antisubstitution law is predicated on purposive and one-sided research. The entire original EAC program would have earned an "F" if submitted as a freshman statistics project paper, and the current HEW manpower projections for the decade ahead have failed to consider the impact of a severely depressed birthrate since the 1960's on future manpower supplies. Each of these deals with a critical function, and we have a right to expect objectivity and precision.

On the other hand, well designed and executed studies originating outside of government are generally turned down as biased or are demeaned simply because they originated in the professional associations or in industry. The excellent

APhA/NACDS study on the administrative costs in dispensing Medicaid prescriptions is a case in point, as are several excellent industry studies on equivalency and quality issues.

Someone needs to regulate the regulators and see to it that their work is held to the same quality demanded in studies done under government grants by private institutions or companies or required of the pharmaceutical industry in submitting a New Drug Application (N.D.A.).

This is perhaps a job for Congress via the Oversight Committee mechanism which should also see to it that there is interagency coordination of programs and, where needed, appropriate legislation to effect federal/state coordination.

In the meantime, the profession needs to strongly impact on the way present programs are executed and how new ones are designed. It can't do it by itself — no one can. Pharmacy needs allies, and strong ones at that.

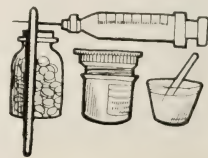


Following the Balassone Memorial Lecture, a reception was held in the Kelly Memorial Building.

Photos courtesy of Paramount Photo

The most powerful ally pharmacy can have for developing itself into the full-fledged health care role it should have in the '80's and '90's is the consuming public. During the 1980's, pharmacy should find a sympathetic public which itself has become frustrated with the intrusion of government into its collective life. Through a working coalition of all elements of pharmacy, together with medicine and the industry, consumers can be won.

I'm confident that in 1990, we'll be able to look back on a decade which will have seen a turn around for the profession. Things will get worse before they get better, for it will take some doing to truly liberate the profession. There's lots of new young blood coming into pharmacy now and they are agents of change. Let's help them see an exciting and professionally challenging and satisfying 21st century!





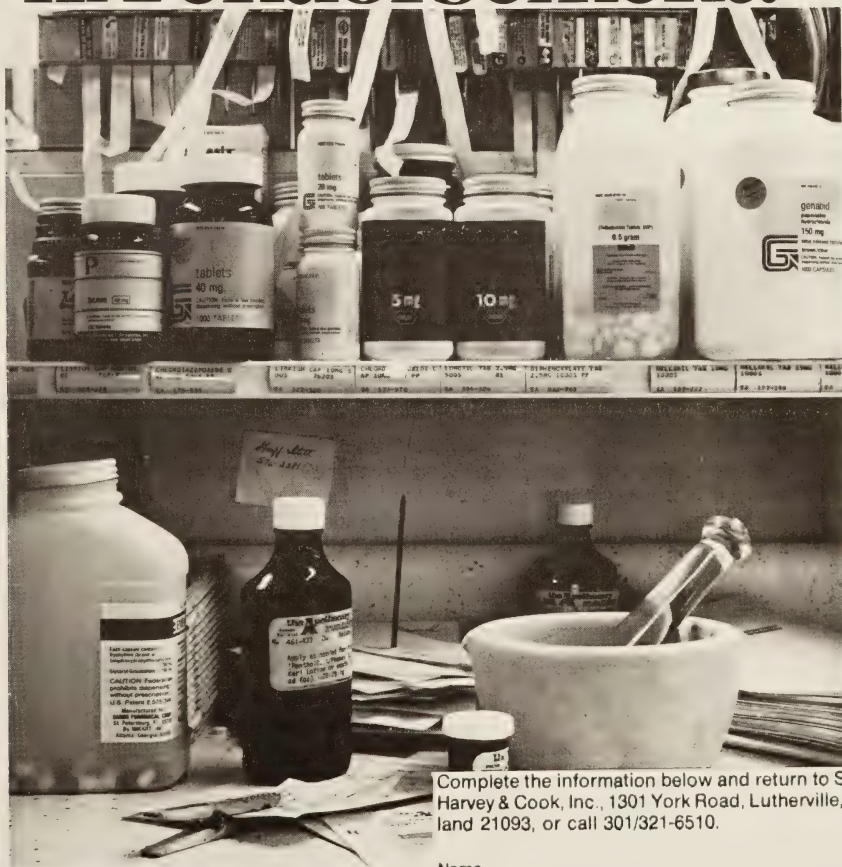
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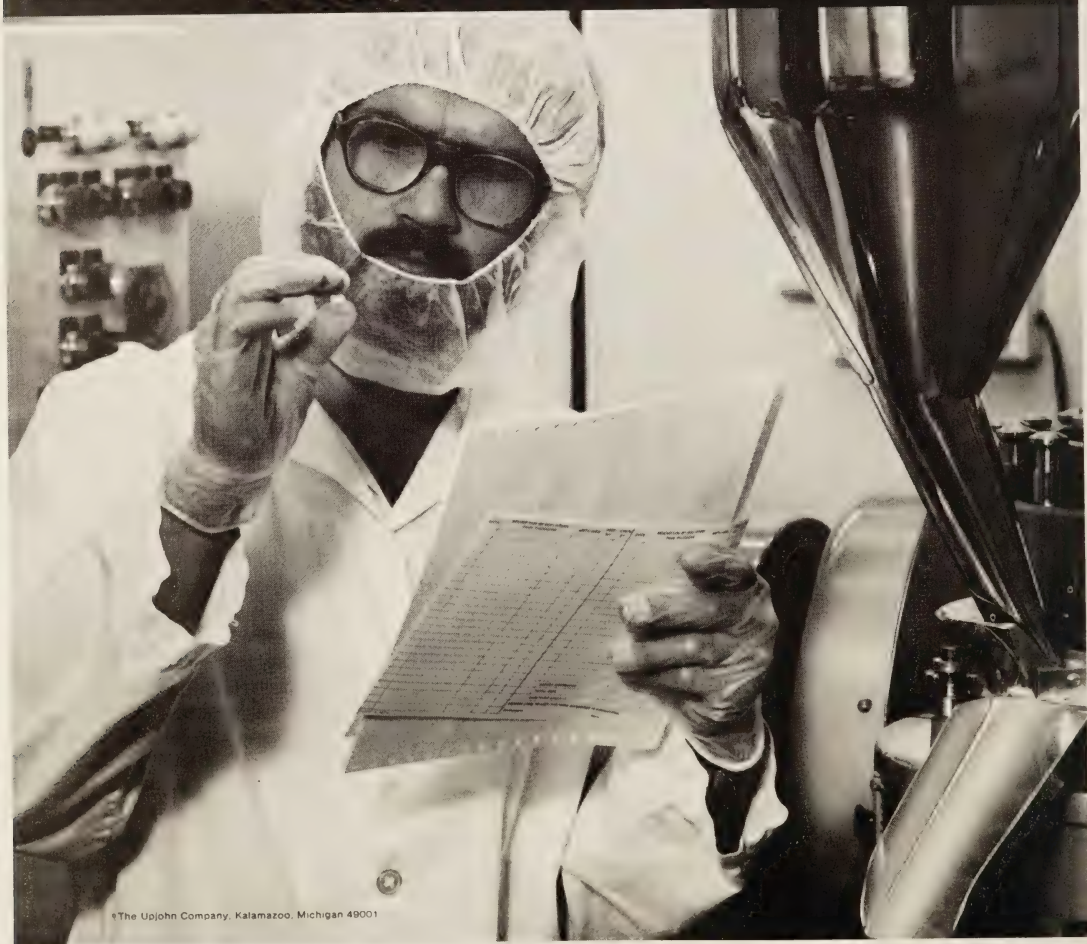
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## **ED'S VERY PICKY ABOUT HIS PILLS.**





Dear Mr. Banta:

I have just joined the staff of the Washington State Pharmaceutical Association as Executive Assistant and Continuing Education Coordinator.

I enjoyed looking over the April issue of your state journal, and would like to compliment you on your publication. It is interesting and relevant, and will certainly serve as an example for possible changes in the content of our magazine.

I was particularly impressed with Toni Plucinski's compilation of *Resources for Continuing Education*. It must have been a tremendous project to develop that listing, and the Continuing Education Coordinating Council should be praised for their efforts.

Would it be possible to get permission to reprint that article in the *Washington Pharmacist*? It would be a great service to the pharmacists in this state. Appropriate credits would be given, of course.

Keep up the good work. Your publication and association are a credit to the profession. Thanks much for your consideration of this matter.

Sincerely,  
Holly Whitcomb

Dear Mr. Banta:

This is in follow-up to our telephonic discussion this date relative to your including practitioners concerns listed in our mail-out in your communication to the pharmacists.

In this regard, we respectfully request that you apprise the pharmacists of the following:

"The Commission on Medical Discipline has demanded that B. Bruce Brumbaugh, M.D., 5825 Main Street, Elkridge, Maryland 21227 permanently surrender his Federal and State Controlled Substances Permits". In view of this, subject physician is not legally authorized to dispense, prescribe, administer, or order Controlled Dangerous Substances.

Thank you for your cooperation in this matter.

Sincerely yours,  
Charles H. Tregoe, Chief  
Division of Drug Control

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Acknowledgement of all donations will appear in the columns of the Guild quarterly publication, *"The Catholic Pharmacist."*

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National Catholic Pharmacists Guild

Commander Ronald J. Pytel  
Contact Person at 824 EE Rd.  
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## calendar



JUNE 15-19 — MPhA Convention, CAROUSEL HOTEL, OCEAN CITY

JUNE 20-22 — MSHP 15th Annual Seminar, Ocean City

JUNE 24-26 — State Board Examinations

JUNE 24 — 10 a.m. — Anne Arundel Police Seminar on Drug Diversion, Millersville

OCT. 18 — Alumni Association Oyster Roast

OCT. 26 — MPhA CARIBBEAN CRUISE

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# Ibuprofen and Dysmenorrhea

BY

LYNDA H. ODERDA

The Medical Letter<sup>1</sup> recently reviewed the use of various drugs in dysmenorrhea. Ibuprofen has been approved for the relief of mild to moderate pain and therefore has been suggested for use in dysmenorrhea.

This paper will briefly review dysmenorrhea and ibuprofen, then discuss four papers concerning the use of ibuprofen in dysmenorrhea.

## DYSMENORRHEA

Fifty-two percent of women have dysmenorrhea, and 10% of these are incapacitated a few days each month. Symptoms often start the day before onset of menses and may last from a few hours to a few days. Pain usually occurs in the lower abdomen and may radiate to the back or thighs. Systemic symptoms include nausea, vomiting, diarrhea, headache, dizziness and syncope.<sup>2</sup>

Dysmenorrhea may be categorized as primary or secondary. Primary dysmenorrhea occurs in the absence of pelvic abnormalities, while secondary is due to the presence of an intrauterine contraceptive device or pelvic abnormality. Primary dysmenorrhea generally begins 6-12 months after menarche. Because it is so rarely seen in anovulatory women, it is felt that a secretory endometrium and progesterone are necessary to produce dysmenorrhea.<sup>2</sup>

Increased prostaglandin levels have been proposed as one of the causes of dysmenorrhea. Supporting evidence for this theory include the increased levels observed in the endometrial washings of dysmenorrheic women, and the similarity between symptoms caused by systemically administered prostaglandins and those of dysmenorrhea.<sup>3-5</sup> It is thought that the lower abdominal pain is caused by prostaglandin-induced uterine contractions, while systemic symptoms are due to increased circulating prostaglandins.<sup>3</sup>

## IBUPROFEN

The mechanism of action, inhibition of prostaglandin synthesis, is the rationale behind use of ibuprofen in dysmenorrhea. One theory suggests that cell trauma releases arachidonic acid from the phospholipid fraction of the cell membrane. Prostaglandin synthetase enzyme complex then acts to convert arachidonic acid to cyclic endoperoxides which go on to form PGE<sub>2</sub>, PGF<sub>2α</sub> and other prostaglandins. Non-steroidal anti-inflammatory agents including ibuprofen are thought to inhibit prostaglandin synthetase which therefore results in decreased cyclic endoperoxides (also cause pain) and prostaglandins.<sup>3</sup>

In order to reduce prostaglandin levels which occur during the late luteal phase,<sup>2-4</sup> it has been suggested that ibuprofen be given a couple of days before expected onset of menses. However, if a woman becomes pregnant during that cycle, this can be an important time embryologically. Animal studies using ibuprofen in doses up to 1600mg per day have not demonstrated any teratogenicity.<sup>2</sup> However, no human studies have been done at this time.

## REVIEW

A pilot study by Chan and Hill,<sup>4</sup> looked at the prostaglandin levels in women with and without dysmenorrhea using a new method for detecting prostaglandins in menstrual fluid. Subjects included two normal controls, one subject on oral contraceptives and one with dysmenorrhea. Two to four cycles per subject were observed; ibuprofen 400mg t.i.d. was used for one cycle in the dysmenorrheic subject starting three days prior to onset of menses and continuing two days after.

The results of this study showed the mean values for total menstrual fluid and prostaglandin activity to be significantly less for the subject on oral contraceptives compared to normal controls. While the total menstrual flows were similar for the control and dysmenorrheic subject, there was significantly increased prostaglandin activity in the dysmenorrheic patient as compared to the normal controls. It was noted that the bulk of prostaglandins were released in the first 36 hours and that this corresponded with the most pain experienced by the dysmenorrheic subject. It was further noted that subjective rating of pain seemed to correlate well with prostaglandin levels in menstrual fluid in the dysmenorrheic subject.

The authors concluded that their pilot study demonstrated applicability of their new method for determination of prostaglandins in menstrual fluid, as well as provided data highly suggestive of a correlation between prostaglandin levels and dysmenorrhea in the dysmenorrheic subject. Furthermore, the effect of oral contraceptives on prostaglandin levels was consistent with the known antiovarian action and suppression of endometrial growth.

Although this pilot study was not blinded, the authors did not attempt to make any conclusions about ibuprofen or prostaglandin levels except with regard to this subject. However, the authors failed to specify which statistical tests were used in this study. This raises the question of reliability of the "statistical significance" in this study.

In another study, Chan, et al.<sup>5</sup> set out to determine (1) the efficacy of ibuprofen for relief of symptoms of dys-





menorrhagia; (2) prostaglandin concentrations in menstrual fluid with ibuprofen and placebo; and (3) any relationship between severity and prostaglandin levels. Seven patients were observed for a total of 23 cycles in a double-blind, random crossover study. Criteria for inclusion into the study included a history of primary dysmenorrhea, no evidence of pelvic abnormalities and no oral contraceptives or IUD's used during the study. Treatment included placebo or ibuprofen 400mg q.i.d. starting on the third day prior to expected onset of menses and continuing through the third day after onset, but no more than 7 days total/cycle.

The authors found that prostaglandin levels were higher than normal controls in all but two cases. Since dysmenorrhea can be caused by factors other than elevated prostaglandin levels,<sup>6</sup> it is to be expected that some women with dysmenorrhea will have normal or low prostaglandin levels. Ibuprofen was found to be effective for the relief of symptoms; the prostaglandin levels correlated well with the level of pain relief achieved for that corresponding day. The authors noted that although it was impossible to control the total doses received, each patient received at least one full day of therapy prior to onset of menses.

Although sample size was small, the study was well designed with optimum control of variables. However, as with Chan's pilot study, the authors failed to mention which statistical tests were used to perform statistical analyses.

The study by Corson and Bolognese<sup>1,7</sup> which was mentioned favorably in *The Medical Letter* was poorly designed and failed to meet the stated objective of demonstrating statistical superiority over aspirin and placebo. Although 40 patients were studied in a double-blind, random crossover design, the criteria for inclusion into the study were too general. Four patients used an IUD during the cycles studied which can result in higher prostaglandin levels due to the IUD alone. Five patients were on oral contraceptives during the study; it has been demonstrated that oral contraceptives lower prostaglandin levels.<sup>4</sup>

Finally, a supplemental medication (a propoxyphene combination product) was allowed for severe pain unrelieved by the medications in the study which were being used during that cycle. The authors noted that supplemental medication use was the same in all three groups. However, their conclusion was that ibuprofen was effective in dysmenorrhea on an empiric basis (not statistically superior).

In that last study by Pulkkinen and Csapo,<sup>8</sup> the effect of ibuprofen on intrauterine pressure and menstrual pain was

examined. Micro-balloon-tipped catheters were inserted into the uterus of 12 dysmenorrheic women. Intrauterine pressure was allowed to stabilize over 30 minutes, after which placebo was administered. Monitoring continued for 60 minutes, then ibuprofen 800mg in a single dose was given and pressure monitored for another 120 minutes.

Results showed that intrauterine pressure was constant during the placebo period and the 30-minute period after catheter insertion. Resting and active intrauterine pressure as well as frequency were all found to be significantly higher in women with dysmenorrhea as compared to normal controls. Ibuprofen was found to significantly decrease these parameters as well as provide relief from the pain.

It should be pointed out that the number of patients studied was small, and the study design was single-blind and unrandomized. While some patients included in this study had secondary dysmenorrhea, all had had abnormal menstrual cycles for an average of 11.8 years, which could not be explained by pelvic abnormalities alone. The statistical tests used in this study were not mentioned.

Based on Chan et al.'s study<sup>5</sup>, ibuprofen appears to be effective for the relief of dysmenorrhea in those women with elevated menstrual prostaglandin levels. However, more studies are needed using larger sample populations and which elaborate on the statistical analyses performed. More teratogenicity studies need to be done, since women of child-bearing age will be using ibuprofen.

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# Alumni Association Banquet

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Past President George Voxakis (left) served as Toastmaster for the meeting while Dr. John S. Toll (Right) the President of the University of Maryland, delivered the featured address.



Jerry Turner, television news anchorman for Channel 13 delivered remarks to the meeting.



Turner's presence at the meeting was a highlight of the annual affair.



The March Dinner Meeting was held on March 3, 1980 at the Forum and attendance by faculty and members of the Alumni Association was outstanding.



Casimer T. Ichniowski (left) was the recipient of the 1980 Honorary President's Award from Dean Leavitt.



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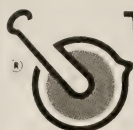


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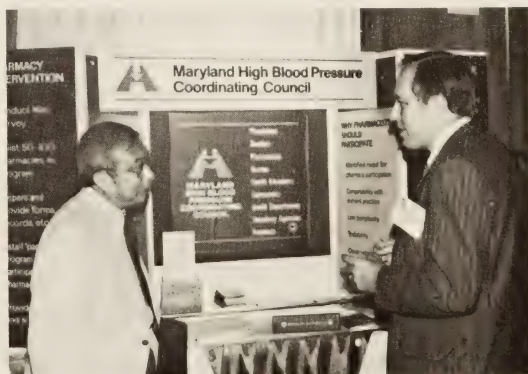
The SAPHa Chapter, School of Pharmacy and M.Ph.A. sponsored a presentation on Nontraditional Career Opportunities for Pharmacists in Government and Industry at the national SAPHa meeting.



Maryland Pharmacists were well-represented at the Convention held April 19-24, 1980 in Washington, D.C. Pictured above are the delegates from Maryland to the A.Ph.A. House of Delegates.



The Pharmacy display front from the Kelly Memorial Building was used in an exhibit for the state pharmaceutical association directors meeting at the convention.



The University of Maryland School of Pharmacy and the Maryland High Blood Pressure Coordinating Council exhibited at the convention. Information on the Elder Ed program was also available. Here Marvin Oed (right) explains the innovative work of Maryland Pharmacists in the high blood pressure project.

# ABSTRACTS

Excerpted from PHARMACEUTICAL TRENDS, published by the  
St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor  
and Leonard L. Naeger, Ph.D., Associate Editor.

## BENEDECTIN:

Bendectin, a combination of pyridoxine and doxylamine, has been widely used to help decrease the discomfort caused by the nausea and vomiting associated with pregnancy. Fears have been expressed that the drug may cause congenital defects especially of the heart and limbs. Last year almost three million new prescriptions were written for Bendectin, but only about 40% of them were filled. The Federal Center for Disease Control has studied the incidence of birth defects in infants born to mothers who have taken Bendectin for nausea and find no greater incidence of it than in control populations. As is true for many medications, Bendectin should be used only when it is needed. Some physicians have restricted its use to patients who are dehydrated because of fluid loss due to vomiting. *J AM MED A*, Vol. 242, #23, p. 2518, 1979.

## ENKEPHALINS:

Enkephalins have been isolated from brain tissue and chemical characterization has differentiated between two analogs, leucine enkephalin and methionine enkephalin. Morphine analgesia seems to be potentiated by the leucine enkephalin, but is not appreciably affected by the methionine-containing derivative. It is possible that these two compounds have different physiological functions. *J PHARM EXP*, Vol. 211, #2, p. 280, 1979.

## PHENYLPROPANOLAMINE:

Phenylpropanolamine (Propadrine) is commonly found in the over-the-counter preparation used to treat nasal congestion and obesity. Double-blind studies were designed to determine if this adrenergic agent would alter blood pressure. Results from this study indicate that the drug does indeed elevate blood pressure and thus the authors have suggested that phenylpropanolamine be removed from its over-the-counter status and be dispensed only on prescription. *LANCET*, Vol. I, #8159, p. 60, 1980.

## ACYCLOVIR:

A new drug has been found to be possibly effective in the treatment of herpes infections. The drug, acyclovir, seems to produce its effects against a variety of herpes infections, especially herpes simplex virus. The agent has a low toxicity and a favorable kinetic profile and thus will be studied in more depth. *CLIN PHARM*, Vol. 26, #6, p. 718, 1979.

## MOLSIDOMINE:

A new antianginal agent, molsidomine, has been shown to act via mechanisms similar to nitroglycerin. The new drug, chemically classified as a sydnonimine, is said to be effective when given orally and exerts its activity for approximately 6 hours. The drug is apparently inactive itself, but is converted to the active metabolite in the body. *N ENG J MED*, Vol. 302, #1, p. 1, 1980.

## PRAZOCIN:

Patients with congestive heart failure have been given vasodilators in an effort to reduce peripheral pressure and thus decrease the work on the heart. The vasodilator prazosin (Minipres) was found to be effective in such situations but its effects decreased after some time. The effect diminished

and doses were increased, but benefit was not restored to the patient. Plasma levels of prazosin remain constant during the period of tolerance, and thus no explanation for the reduction in effectiveness of the vasodilator has thus been found. *ANN INT MED*, Vol. 91, #3, p. 345, 1979.

## ANTIVIRAL AGENTS:

Few drugs are currently available to help control viral infections and many of these have been outgrowth of the work carried on in the area of oncology. Amantadine (Symmetrel), idoxuridine (Stoxil), and vidaradine (Vira-A) have specific uses and thus a rather limited spectrum of activity. Recently advances have been made in the search for identification of the structure of interferon. This substance produces a wide spectrum of antiviral activity and is the most promising antiviral agent used thus far. It is felt that synthesis of the interferon molecule will be a major step in providing the medical community with a wide-spectrum antiviral agent. *DRUGS*, Vol. 18, #5, p. 354, 1979.

## INSULIN RELEASE AND AGE:

The cyclic activity of insulin in the plasma has been found to maintain constant patterns throughout life and is not altered significantly by age. Information just obtained from the analysis of animal data indicates that beta-cell function does decrease with age, but insulin activity does not drop because there are adjustments made in prevailing glucose plasma concentrations, activity of intestinal insulin secretagogues, insulin turnover rate, beta-cell mass, etc. which tend to disguise the decreased beta-cell function. *J CLIN INV*, Vol. 64, #2, p. 59, 1979.

## COLITIS:

The use of clindamycin has been associated with the development of pseudomembranous colitis. It has been postulated that this condition is due to the overgrowth of *Clostridia difficile*. A report just published has suggested that cephalosporins have caused colitis in 17 patients. The authors suggest that when diarrhea develops in patients receiving cephalosporins, pseudomembranous colitis should be excluded before continuing therapy. *J AM MED A*, Vol. 242, #24, p. 2683, 1979.

## DIFLUNISAL:

A new novel analgesic has been discovered which has greater potency, is better tolerated, and has a longer duration of action than do the salicylates. The drug, diflunisal, does not produce tolerance to its effects and its effectiveness is not reduced by narcotic antagonists. The drug has its effectiveness potentiated by the narcotics. Investigators are hopeful that diflunisal will prove to be a potent, non-addicting analgesic. *J PHARM EXP*, Vol. 211, #3, p. 678, 1979.

## NITROGLYCERIN:

Over 100 years ago, nitroglycerin was first introduced into medicine as an agent suitable to use in treating the pain associated with angina pectoris. Today its actual mechanism of action is still largely unknown, but investigators feel its effectiveness is due partially to a reduction of peripheral resistance rather than to a direct effect on the myocardium. Perfusion through the coronaries may increase because of a reduction in end-diastolic pressure or because of dilation of certain coronary arterioles. *LANCET*, Vol. II, #8156, p. 1340, 1979.



## **BONE DENSITIES:**

It has been noted that Caucasian females experience a larger number of bone fractures (femoral and neck fractures) after the age of 50 years than do black females. Measurements of bone densities in the two groups has shown little difference before the age of 50 years, but after this time the density of bone decreases to a greater extent in the Caucasian females. The process also occurs to a greater extent in Caucasian females than it does in Caucasian males. *LANCET*, Vol. II, #8156, p. 1327, 1979.

## **PROPRANOLOL:**

Propranolol has been found to be present in the body long after its therapeutic effect has ceased. It appears that the drug remains as the glucuronide conjugate, a compound with a long half-life. *CLIN PHARM*, Vol. 26, #6, p. 686, 1979.

## **THC:**

Delta-9-tetrahydrocannabinol (THC) is the active ingredient in marijuana and some have suggested that it has value as an antiemetic in patients undergoing cancer chemotherapy. Since the chemotherapeutic agents are often used intravenously, the mechanism associated with the development of nausea is thought to be of central origin. Since both prochlorperazine (Compazine) and THC act centrally to control nausea, both drugs were utilized in a double-blind study designed to evaluate the effectiveness of each agent. Patients receiving the THC experienced an increase in food intake as well as a "high" while taking the drug. The THC was preferred more often than the prochlorperazine in those who made a choice between the two drugs and the THC was found to be more effective in patients under the age of 20 years. The drug was given in doses of approximately 15 mg every four hours for 3 doses. *N ENG J MED*, Vol. 302, #3, p. 135, 1980.

## **ENDORPHIN:**

Fourteen cancer patients with intractable pain were given 3 mg doses of a synthetic beta endorphin intrathecally. All patients experienced relief from pain. The analgesic effect lasted for an average of 33 hours. The drug did not depress respiration, produce hypotension or hypothermia, or induce catatonia. *LANCET*, Vol. I, #8160, p. 122, 1980.

## **THE BENZODIAZEPINE RECEPTOR:**

A receptor has been found in the brain which is specific for binding the benzodiazepine derivatives, e.g. diazepam, chlorthalidoxepoxide, etc. The binding of the drug to the receptor site seems to correlate well with the anxiolytic, anti-convulsant, and muscle relaxant effect produced by the drug. The presence of gamma amino butyric acid seems to enhance the binding of the benzodiazepine derivative to the receptor site, but the transmitter does not seem to bind directly to the receptor itself. This discovery has produced much interest in the area of psychopharmacology especially since an endogenous compound has been found to activate the receptor which binds opiates. Thus far it is not known if a similar endogenous substance exists for the benzodiazepine receptor, but work will undoubtedly continue in this area. *J PHARM EXP*, Vol. 212, #1, p. 137, 1980.

## **ENDORPHIN AND ALCOHOL:**

A double blind study was designed to determine if naloxone, a narcotic antagonist, might have some effect on

the impairment of psychomotor performance induced by alcohol. At low alcohol plasma levels, the antagonist helped reverse the effect of alcohol as measured by several tests. It has been suggested that ethanol causes release of endorphin or enkephalin and that reversal of some of the pharmacological effects of ethanol may be accomplished by use of the narcotic antagonists. *LANCET*, Vol. II, #815, p. 1157, 1979.

## **DOMPERIDONE:**

A new antiemetic compound has been used successfully in patients receiving antineoplastic therapy. Domperidone was well tolerated and produced few side-effects when used in children. *BR MED J*, Vol. II, #6199, p. 118, 1979.

## **MORPHINE:**

Patients who had just experienced major surgical procedures were given morphine as an analgesic. The drug was given either by intravenous drip or the intramuscular route. Patients seemed to prefer the intravenous route since it produced better pain control and fewer side effects. In addition, the total amount of the narcotic used is less when the intravenous drip route is utilized. *BR MED J*, Vol. 280 #6206, p. 12, 1980.

## **DOXAPRAM-PENTOBARBITAL INTERACTION:**

Doxapram (Dopram) is a respiratory stimulant used to enhance oxygen intake in patients with depressed respiratory function. The drug has also been shown to prolong the narcosis induced by pentobarbital. It has been suggested that the enhancement of pentobarbital activity is due to the inhibition of pentobarbital metabolism. The interference is produced not only by the doxapram itself, but also by chlorobutanol, a preservative in the commercial preparations of doxapram. *CLIN TOXIC*, Vol. 15, #2, p. 169, 1979.

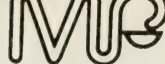
## **ULCERS:**

Acute gastrointestinal bleeding is a common cause of hospitalization. Death may occur in a significant number of patients despite the currently available methods for treatment. Researchers have been successful in controlling the bleeding by using an argon laser photocoagulator with the light being transmitted down the esophagus through a flexible quartz fiber. Approximately 80% of the patients experiencing the procedure demonstrated hemostasis. *LANCET*, Vol. I, #8160, p. 124, 1980.

## **CHLOROXYDRIN:**

A male antifertility drug, chloroxydrin, has been found to produce a direct, reversible action upon epididymal sperm without affecting spermatogenesis. The sperm cells are morphologically mature, but they are unable to fertilize the ovum. Several problems have been associated with the administration of the drug to animals including hypertrophy of the kidney and glucosuria. Reducing the dose does prevent the renal side effects, but thus far it has not been possible to separate the glucosuric effect of the drug from its antifertility action. A few more tests will be completed before alterations in the molecular structure are made in search of a less toxic male contraceptive agent. *J PHARM PHA*, Vol. 32, #1, p. 39, 1980.





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The Maryland Pharmaceutical Association Centennial Celebration Planning Committee is looking for information on the history of Maryland Pharmacy. Specifically, the Committee is interested in the oldest continuously operated Pharmacy in Maryland and the oldest family in Pharmacy. Other items of historical significance should also be sent to the Committee in care of the Association office.

In 1982, the Maryland Pharmaceutical Association will be 100 years old. The Committee believes that now is the time to begin planning for the occasion of our centennial celebration.

The SAPHa Chapter of the School of Pharmacy has also asked that anyone with material of historical significance be reminded that they can donate these to the Museum project in the Kelly Memorial Building. A back room in the basement is being converted into a turn-of-the-century Pharmacy by the SAPHa Chapter and there is additional room for exhibits.

NOTE — To date, 45 Pharmacies have signed up for the Coupon Redemption Service offered by the Maryland Pharmaceutical Association. If you missed that mailing, contact the office now to take advantage of the latest fringe benefit of Association membership.



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# THE MARYLAND PHARMACIST

Official Journal of  
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JULY 1980  
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NO. 7



## The Elderly and Their Drugs

— Cathryn M. Lott, Peter P. Lamy

## Retired Pharmacists serve the Elderly

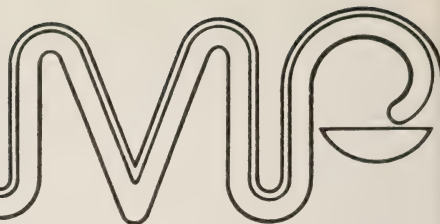
— Madeline Feinberg

## Convention Pictures and Reports



# THE MARYLAND PHARMACIST

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Many thanks are due to the many extremely active and devoted members of the Association. The support of the elected officers and Board members continues to provide the Association with the strong nucleus (core) on whom the President and Executive Director can rely.

As your President, I shall continue to rely on volunteers to become involved in any and all facets of association activity. My communications to you will repeat the need for cooperative efforts to attain the goals of the profession and Association. The commitment to developing short and long term goals and objectives for the Association shall become evident as time passes on. You the members of the MPhA must appraise the officers and Board members of your individual activities in pharmacy practice which can be put to use.

We individually and collectively must become involved in developing a true image for the Association and profession. The celebration of the Centennial of MPhA will be forthcoming in 1982, let us count you in for working in some way for that momentous project.

Forget not our objective of providing patient care to the best of our ability in whichever practice environment we are involved. Communicate with your patients in writing, verbally, and by demonstration as needed, *secundum artem*.

Home Health Care Agencies, Health Maintenance Organizations, Patient Education Programs, pharmacy continuing education programs are but a few areas in which there is the need for many volunteers to explore and expand the role of pharmacists.

Let us learn to recognize the opportunities that are available to us before legislation, regulation and control force us to practice in environments less than desirable to us.

Membership is important to the Association and the attainment of its goals. Let us set our goal of reaching 1982 members by the Centennial year. That will still leave more to become members the following year.

Looking forward to working with many of you over the next ten months, I remain

*Sincerely,*

Samuel Lichter  
*President*



# ELDERLY AND THEIR DRUGS

By

Cathryn M. Lott and Peter P. Lamy

One of the most important factors for the success of drug therapy is patient adherence to the prescribed regimen. Patient non-compliance with therapeutic regimens may range from 25 to 80 percent.<sup>1</sup> Among older adults, non-compliance may be as high as 60 percent.<sup>2</sup> Non-compliance of older adults is of particular concern as the error may be more severe and may take longer to overcome. Non-compliance in this population includes omission of necessary medication, taking inappropriate drugs, and continuation of medications which are no longer necessary.<sup>3</sup>

Ten percent of the US population was 65 years of age or older in 1974. This relatively small segment of the population, however, accounted for 25 percent of all dollar expenditures for prescription and OTC drugs in this country.<sup>3,4</sup> This imbalance in addition to the treatment failures attributed to non-compliance has focused much attention on the elderly population. Several solutions have been proposed to increase compliance in this patient group, but few have actually been studied. One approach, used in England, compared the use of medication calendars or tablet identification cards to promote compliance between three patient groups.<sup>5</sup> Though the study showed increased compliance and decreased errors with verbal instructions and written memory aids, the authors conclude that much further effort is needed to promote compliance in the elderly.

A generalization often made about the elderly is that with increasing age comes a decrease in cognitive ability. Many health practitioners assume an older individual's slower response time to questions or slower recall indicates a decrease in mental function. This erroneous assumption may be further compounded if the individual has a hearing or visual impairment, yet few practitioners take the initiative to assist the elderly in comprehension. In a literature review on the aging process and cognitive ability, Ford and Roth<sup>6</sup> empha-

size that while the elderly may have a more difficult time learning new material, once it is learned recognizing and/or remembering the material is much less of a problem. If this is true for a large portion of the elderly population, it provides a significant area for health care practitioners to impact on patient compliance.

This study was undertaken as a general assessment of comprehension among visitors to the outpatient clinics at a Veterans Administration Medical Center. The results should be viewed with the considerations that the patients were interviewed for subjective responses, no follow up on comprehension was attempted and all the patients were male.

Candidates for interviews were selected by inquiring dates of birth of patients when prescriptions were presented at the outpatient pharmacy for dispensing. The medication for patients 65 years of age and older was separated from other outpatients' prescriptions and the patients were asked for their cooperation when they received their medication.

Forty-six patients were interviewed during a two week period. Patients who agreed to participate were asked the following questions: 1) were the prescriptions they received new or refill prescriptions; 2) did they use any other medications, including over-the-counter preparations, not received through the VA; 3) to read the label directions and give their interpretation; 4) the name and use of each medication; and 5) what information, if any, the prescribing physician or any other health care professional had given them about their medications.

The 46 patients interviewed ranged in age from 65 to 90 years for an average of 72.8 years. One hundred ten prescriptions were dispensed to this group, with a range of from one to six prescriptions per patient and an average of 2.3 per patient. Questioning the patients for additional medication use revealed a total of 155 prescriptions being used, a range of from one to 10 prescriptions per patient, and an average of 3.3 prescriptions per patient.

Of the 46 patients, 13 (28%) knew both the name and use of their medication. Twenty-one patients (46%) could identify the use of the medication only. Responses to the question of therapeutic use included "pressure pills" for hydrochlorothiazide, "for my heart skipping" for quinidine, "for the

---

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Dr. Lamy is Professor and Director, Institutional Pharmacy Programs, Chairman, Department of Pharmacy Practice and Administrative Science, School of Pharmacy, University of Maryland at Baltimore.



pressure in my eyes" for timolol, pilocarpine, and acetazolamide, and "to put back the salt the blood pressure pills make me lose" for potassium chloride supplementation.

The best response was in answer to the question of dosage interval interpretation. Thirty-seven patients (80%) gave answers which could be categorized as correct. For example, two times a day was interpreted as both "in the morning and in the evening" and "at breakfast and at supper." Responses to instruction for dosing three times a day included "morning, noon, and evening" and "in the morning, in the middle of the day, and between six and seven in the evening." One patient showed interest in complying with the prescribed dosing schedule because, though the label on his prescription for propranolol read every six hours, the patient said he had asked his physician if he could change the interval to every five hours so he would not have to get up during the night.

For 16 patients (35%), the prescribing physician had given the patient additional information other than the label directions. The kind of information ranged from an instruction sheet for application of a dermatological preparation to a verbal warning against the overuse of an OTC asthma product in addition to prescriptions for aminophylline and metaproterenol. Since many of the patients were on medication for hypertension, a frequent response to the question of the provision of additional information was that the patient had been told he would have to continue the medication for the rest of his life.

Classification of the medications by therapeutic category showed the four most prevalent classes were diuretics and antihypertensives, dermatologicals, preparations for the heart, and ophthalmics. This compares with the four most prevalent classes for the elderly population in general of drugs for the heart, tranquilizers, diuretics, and sedatives.<sup>4</sup> The Medical Center is the primary center in the area for both the dermatology and the ophthalmology clinic specialties which explains the prevalence of these two categories of

medication. For the group interviewed, no prescriptions for tranquilizers or sedatives were dispensed nor did any of the patients confirm the use of either of these classes of drugs when asked what, if any, other medication they were taking.

Although the study was conducted under subjective conditions and in general terms, the willingness of the patients to participate indicated their acceptance of assistance with drug therapy. The correct response to the question on dosing interval interpretation in 80 percent of the patients was encouraging, though one must consider the possibility that the patients were giving answers they believed the interviewer wished to hear. In general, the group of elderly patients interviewed understood the directions on how to take their medications. If comprehension is a prerequisite to compliance, these patients could be assumed to be compliant.

The apparent understanding shown by these elderly patients is remarkable. Two methods to further improve compliance were suggested. First, additional time could be spent with patients 65 years of age and older to explain their medication more fully and second, time could be spent with patients who are begun on chronic medication before the age of 65 to promote compliant behavior as a part of daily routine.

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# Retired Maryland Pharmacists Serve the Elderly

By

**Madeline Feinberg**  
Coordinator, Elder Ed

Retired pharmacists in the Baltimore area are stepping out of professional retirement to offer their years of experience to senior citizens in their communities. Under the auspices of the University of Maryland at Baltimore Task Force on Aging, the School of Pharmacy has developed a unique program which pairs retired pharmacists and pharmacy students to deliver consumer drug education at neighborhood senior centers. The project, called Elder Ed, is directed by Dr. Peter P. Lamy. It has been in operation since November, 1979. Community response to the Elder Ed program has been overwhelmingly favorable and, as a result, we are expanding the project to include other areas of the state and are now actively recruiting the retired and semi-retired pharmacist statewide, as well as locally in the Baltimore region.

When we initially approached the Baltimore Veterans Druggist Association to assist us in this program, we encountered a certain hesitancy. The pharmacists felt they were not up-to-date on the new drugs and on developments in pharmacology. They were concerned about the logistics of transportation to the centers for the programs and many felt unsure of their ability to assume the responsibilities that participation might entail. On the other hand, most of the pharmacists agreed that programs such as Elder Ed, which deal with potential drug problems of the older population, will be much more effective if at least one of the program participants is "older" himself and can more readily appreciate the needs and concerns of the audience from a personal point of view. In fact, this has been our experience. We need the senior pharmacist to "break the ice" and more importantly, to bring to these programs their expertise and practical experience in matters of pharmacy and in communication with the patient. Fully one-third of the active members of the B.V.D.'s volunteered to join forces with the School in developing this project.

In order to prepare the students and pharmacists to give consumer drug education programs, the Geriatrics Committee faculty at the School prepared a series of lectures. Topics

covered included the physiology of aging and how this can alter drug response. Also covered were lectures on generic drugs, over-the-counter preparations and nutrition and vitamin needs of the elderly. We also devoted lecture time to the characteristics of the elderly population especially emphasizing to the students the limitations of the older audience. Hearing and visual impairment should be assumed and the speaker should compensate for this. In addition, students must modify their vocabulary, not only in simplifying scientific terms, but also as it applies to the generation gap. For example, one of our pharmacist participants pointed out the word "drug" has a very negative connotation to the older person. "Drugs" are associated with teenage abuse and crime and are not associated with the medications taken by the elderly. The students were strongly encouraged to talk about "medicines."

Lectures were held at the School of Pharmacy and attendance was required for the students to receive academic credit. The senior pharmacists were invited to attend the lectures to familiarize everyone with the material and general concepts. We realized that the retired pharmacists, although willing to participate, could not assume the students' vigorous training schedule. Therefore, we prepared lecture summaries and distributed copies to the pharmacists along with reading materials given to all participants. At the suggestion of one pharmacist, in the future we will tape the lectures and have several copies of the tapes along with a tape recorder available to pharmacists who do not attend the training lectures but who wish to participate in these programs. Also, we will invite pharmacists to attend an Elder Ed program as an alternative to attending lectures and in this way our senior pharmacists can become familiar with the material presented.

The pharmacy students were asked to develop one-hour talks for a senior audience based on topics believed to be of greatest interest to the older person. The following programs were developed:





Retired Pharmacists from the Baltimore Veteran Druggists Association team up with Pharmacy Students to present drug information to senior citizens through the Elder Ed Program.

Photo Courtesy of Paramount Photo

1. A one-hour talk on the wise use of medicines — This is a general discussion of concepts which discuss the type of information the patient needs to bring to his physician in order for the physician to prescribe the most appropriate medication.

We then elaborate on the patient-pharmacist relationship. We cover pharmacy services, selection of a generic equivalent, pricing, non-safety containers and large type labeling. We stress the importance of knowing how to take and store medications properly. In addition, we give examples of medicines which should not be taken simultaneously. Finally, we describe possible side effects of common medicines and what should be done if these side effects are experienced. A pamphlet, "You and Your Medicines" is used as the basis for this presentation.

The second type of program is a four-week series which is more detailed and which covers the following subjects:

1. *Physiology of aging* — The students describe how a medication works in the body, briefly describing the process of absorption, distribution to the tissues, metabolism of the drug and the elimination of the drug from the body. We explain that the normal aging process will affect how efficiently the body handles the drug, how to properly take the medications for their optimal effect and how to reduce the chance of experiencing adverse effects. Finally, we describe how to recognize if side effects occur and what action should then be taken.
2. *Generic drugs* — We define a generic drug, when and whom to ask for a generic drug, what factors the physician and pharmacist consider when prescribing or dispensing a generic product and we attempt to explain the type of cost savings the patient can expect.
3. *Over-the-counter drugs* — This topic is also very popular among our older audience. We know the prevalence of self-medication among the elderly and we attempt to set up guidelines for appropriations and selection of OTC products. We devote some time to the analgesics, discuss cough and cold preparations, laxatives and antacids in detail and emphasize the need for caution in self-medication in view of the elderly person's physiological status. We emphasize the necessity for pharmacist assistance in the selection of an OTC product, both for safety and for cost savings.

4. *Vitamins and nutrition* — The great popularity of vitamins and the abundant mythology which accompanies vitamin use today has made this topic a big feature. Our students and pharmacists briefly discuss the generally accepted rules of good nutrition in the healthy adult and then we describe the vitamin and mineral supplements available. We cover iron and calcium supplement in particular detail. Finally we offer recommendations as to the selection of a vitamin/mineral supplement.

We are planning additional topics on the use of alcohol, sedatives and psychoactive drugs among the elderly.

The retired pharmacists participate in these presentations to a varied degree. As a rule, the retired pharmacist will speak first. He will describe the Elder Ed program and what we hope to accomplish by bringing consumer and drug education to the older population. He will then introduce the topic to be covered and introduce the student(s) who will be speaking. The pharmacist is also available for questions during the following the presentation. Often the pharmacist will add comments during the presentation in order to re-enforce a particular point. Other pharmacists take a more active role in speaking. Usually, they have worked with a particular student on several occasions and together the student and pharmacist have developed a "routine" which both enjoy and which has proven most effective for them. It is essential to the success of the presentations that we achieve this balance between the "new" and the "old." We have found that the student-retired pharmacist team is synergistic — that is, together they are more effective than each could be individually.

Problems such as transportation or the physical limitations of the senior pharmacist were easily handled. We plan our talks at the senior centers at least four weeks in advance. This enables the Center to advertise the programs and it allows us to arrange for speakers to cover the programs. We always have a "backup" speaker in case someone must cancel. Transportation problems for senior pharmacists were dealt with on an individual basis. Free parking tickets were available for lectures and meetings held at the Pharmacy School. For those pharmacists who could not drive, either a fellow pharmacist, a student or the Program Coordinator arranged to provide the transportation. We firmly believe that lack of transportation should not deter anyone from participating in this program. The talks at the Senior Centers are always scheduled for the middle of the day, and if lunch is being served, we are always invited to join. This is one of our fringe benefits!

The Elder Ed programs are being given throughout the summer months and we invite you, the reader, to attend. In September we will be planning another series of training lectures for new students and retired pharmacists who wish to join the program. To date, it has been tremendously popular with the community centers and most rewarding personally to the students and pharmacists. Since we are hoping to expand to other areas of the state, I will be contacting local pharmacy associations to encourage their senior pharmacists to lend their skills to this effort. If you are interested in observing a program or for any further information, please call (301) 528-3243. We certainly hope to hear from you!

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# Adverse Effects of Rapid Infusion Rates:

## AN OVERVIEW

by VIVIAN REXROAD  
& TONI PLUCINSKI  
PHARMACY V EXTERNS

The unintentional or the prescribed rapid infusion of intravenous fluids and additives can create hazardous complications. Complications which can arise are syncope, shock, thrombophlebitis, convulsions, parasthesias, hyperglycemia, hypertension, cardiac arrhythmias, pulmonary edema, cardiac arrest, and other problems.

"Speed Shock" is the term used by one author to describe the systemic reaction when a substance foreign to the body is too rapidly introduced into the circulation. When a drug is introduced slowly, both mixing and a slow buildup of drug concentration of drug in the plasma are permitted; rapid injection causes a high buildup so that organs which have a profuse blood supply, notably the heart and brain, are suddenly flooded with potentially toxic concentrations of the drug.

The other situation is fluid overload which can be particularly critical in infants, elderly patients, or patients with impaired renal or cardiac function.

It is very difficult to predict a patient's reaction because the reaction is very dependent on the drug or fluid administered and the patient's condition.

Below is an outline of several frequently prescribed drugs which can potentially create problems if administered too rapidly.

1. Aminophylline — do not administer at a rate exceeding 25 mg./minute. Too rapid infusion can lead to hypotension, cardiac arrhythmia, sinus tachycardia (i.e. if pulse is 120 — 160 beats per minute, consider discontinuing or slowing rate of Aminophylline drip).
2. Ampicillin — do not administer at a rate exceeding 100 mg./minute. Too rapid administration to high dosage (2 g. or more over 10 minutes) has produced convulsions and muscular irritability.
3. Calcium chloride, gluceptate, or gluconate — too rapid administration may cause calcium taste, tingling sensation in the extremities, and cardiac effects.
4. Furosemide (Lasix O) — rapid infusion of 2 grams in 30 minutes caused tinnitus, epigastric pain, or deafness persisting for 90 minutes in all normal studies. Ototoxic problems are best avoided if drug given over a long period, i.e. 3 grams over 8-10 hours.
5. Dextrose — injected too rapidly has resulted in self-defeating glucosuria, osmotic diuresis, and increased urinary loss of electrolytes.

6. Gentamycin (Garamycin O) — too rapid administration can cause nephrotoxicity and thrombophlebitis.
7. Lidocaine — twitching, drowsiness, dizziness, and possibly convulsions can occur if an administration rate of greater than 4 mg./minute is exceeded. Greater than 250 mg./hour should be carefully monitored for the appearance of hypotension and/or convulsions.
8. Methylprednisolone sodium succinate (Solu-Medrol O) — with rapid administration (1 gram over 2-3 minutes) possible transient tingling in the extremities and flushing may occur.
9. Phytanadione (Aqua-Mephyton O) — do not administer at a rate exceeding 5 mg./minute to avoid chills, fever, flushing, chest tightness, hypotension, possible seizures, and cyanosis (signs of too rapid administration).
10. Plasma Protein Fraction (Plasmanate O) — one study reported circulatory collapse after rapid administration of Plasmanate. The reaction was characterized by profound hypotension, peripheral vasodilation, facial edema, and pulmonary wheezes.
11. Vitamin B and C (Berocca-C, Solu-B-Forte O) — too rapid administration may produce flushing and tingling in the extremities due to thiamine in the preparations.

Cancer chemotherapy drugs and cardiac drugs are considered critical and therefore rates of administration are usually closely monitored; however, drugs often prescribed which are considered by many of the health care team to be benign agents are often unwatched during infusion. As presented above, "benign" agents are capable of producing severe complications when infused at too rapid a rate.

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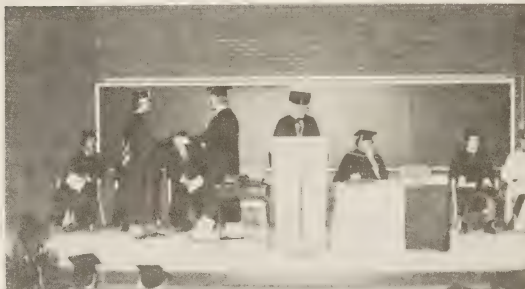
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The Convocation was held May 29, 1980 at the Medical School Teaching Facility.

Pictures Courtesy of Paramount Photo



The graduating class of 1980 await the start of the Pharmacy School's Honors Convention.

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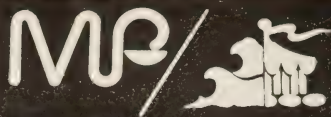
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 Jeffrey Lynn Moyer\* — *High Honors*





# a convention



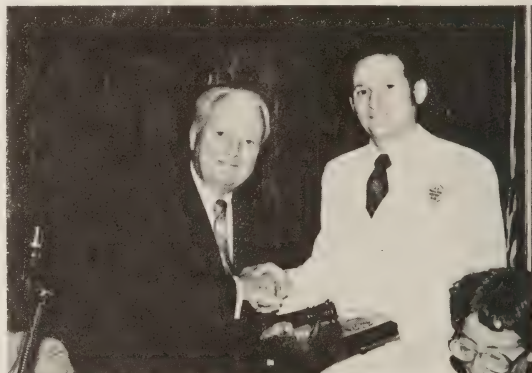
M.Ph.A. President Ronald Lubman (left) presents Honorary President Victor Morgenroth with the Association's special award.



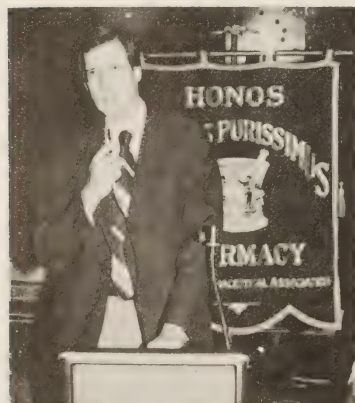
Nancy Lubman receives the Geigy Pharmacist's Mate presentation from John Steighner.



A terrific turnout of Pharmacy students came to enjoy the Sun and Surf at the Convention, June 15-19 at Ocean City, Maryland.



Banquet Grand Marshall Charles Spigelmire (left) presents out-going Speaker of the House Philip Cogan with a special award in recognition of his service over the past year.



Dr. John Southard helped explain the High Blood Pressure Coordinating Council's project for Pharmacists in Maryland.



Betty Alpern, in-coming President of LAMPA, introduced the other officers at the M.Ph.A. Banquet June 18, 1980.

**MPhA Convention**



at

**the  
Carousel**

**Ocean City, Maryland**

**June 15-19, 1980**

*Pictures courtesy Paramount Photo Convention Photographer Abe Bloom.*



# you just won't ever forget.



Incoming President Samuel Lichter (left) receives the NARD Leadership Award from Trustee William Hill.



Bowl of Hygeia Award winner Donald Fedder (center) is flanked by President Ronald Lubman (left) and Robins representative Jim Owings (right)



The Officers and members of LAMPA held two business meetings and a fashion show among other social events at the convention.



A Convention highlight was the annual crab feast which stretched the capacity of the Berlin, Maryland fire hall.



Tax specialist Edd Hyde gave a special presentation on "Estate Planning" sponsored by SKF



Madeline Feinberg served as Toastmaster for the Banquet at the 98th Annual Convention.



Robert Henry's wit and wisdom was the talk of the convention. His presentation was made possible by McNeil Laboratories.

# Report of the Speaker of the House

It is a pleasure for me to deliver this report as the Speaker of the House of Delegates at this 98th Annual Convention of the Maryland Pharmaceutical Association. It has been a privilege and an honor for me to serve as Speaker over this past year. During this time the Association has had two Regional Meetings in addition to this Convention, and I want to take a moment to recall and highlight some of the accomplishments of the House of Delegates during that time.

I personally believe that this report back to the delegates is one of the more important functions that the speaker of the House must perform. It is my responsibility to ensure that the resolutions that are adopted by this body are not filed away and forgotten, but rather, become a vital part of the policy direction of the Association. This House of Delegates has the decision making authority to set MPhA policy for the future. This is a great responsibility and one that I know you will take very seriously. As a further form of input into the policy direction of the Association by the House of Delegates, the Constitution and By Laws of the MPhA specify that both the Speaker and Vice Speaker of the House are voting members of the MPhA Board of Trustees. Marvin Friedman and myself have represented you at these Board meetings over the past year. You may recall that I gave a report on the disposition of the resolutions adopted by this body at last year's convention at the Fall Regional meeting. At that time, I said that this kind of feedback was essential to the sense of continuity which the House of Delegates must have in order to function at its best with a sense of perspective as we deliberate on policy resolutions.

At this time, I would like to quickly review last year's resolutions again and report the further progress we have made in each case.

There were two "House keeping" resolutions which commended Eli Lilly and radio station WCAO for their contributions to the image of pharmacy through public relations and public service efforts. These, of course, were implemented immediately after last year's convention.

Resolution number two, however, concerned drug products that are being marketed in Maryland without FDA approval in the form of an NDA or ANDA when required. The resolution directed the Industry Relations Committee and the Legislative Committee to investigate this matter. The Industry Relations Committee has adopted this project as one of its major efforts over the past year. They have collected information from various companies marketing drugs in Maryland. A listing of approved drug products by manufacturers will appear in the **Maryland Pharmacist** in the very near future as an aid to practicing pharmacists. The Legislative Committee recommended that legislation be introduced addressing this issue. HB 1325 was introduced and received a favorable report in the House Committee, but unfortunately, failed on the floor of the House.

However, the Board of Trustees has asked the Board of Pharmacy for clarification of State law to determine if this situation is not already addressed in existing State statute.



Philip Cogan, 1979-80 Speaker of the House of Delegates

The recent release of the positive formulary may also help to alleviate some of the confusion in this area.

Another resolution commended the growing sense of cooperation between the MPhA and other pharmacy organizations, particularly the Maryland Society of Hospital Pharmacists. I have observed over this last year, that this sense of cooperation has continued to develop. The Society and Association have cooperated in the formation, with the School of Pharmacy, of the Continuing Education Coordinating Council. They have joined forces on legislation and regulations and the on-going work of the Maryland Tripartite Committee. As you know, this area is the subject of another resolution which we will consider in a few minutes. I think it is very commendable that both organizations have continued to work for closer cooperation over the past year and I am hopeful that we may see even more of the same.

Last year's resolution number 4 requested that the Association appoint a Centennial Celebration planning committee to begin the significant work of planning for this Association's 100th Anniversary in 1982. As you will recall from yesterday's report by Committee Chairman Richard Parker, the Committee is active and has already begun planning for this event.

Another resolution called for the repeal or modification of the mandatory price poster. While at first we honestly did not think that this resolution stood much of a chance for final implementation, the Legislative Committee did follow through and this resulted in the introduction of HB 536 in this year's general assembly. The bill received a favorable report out of two House Committees but did not reach the floor of the House of Delegates due to some internal political disputes between the two committees. The Legislative Committee was encouraged by the progress we made with the bill and it will be a high priority for them in the next session of the State Legislature.

Finally, there was a resolution which was introduced on the floor of the House of Delegates which called for the formation of a Committee to investigate a pharmacy prescribing act. The President of the Association, Ronald Lubman, appointed Dr. Bonnie Levin to chair this Committee, which became known as the Pharmacy Primary Care Committee. A report from that Committee was received at yesterday's session of the House of Delegates. Its important work will continue in the years to come.

I hope this review of last year's resolutions will again serve as a reminder that the work of the House is not shelved after the Convention, but rather forms the framework from which the officers, staff and Board work to guide the Association through its various activities to the benefit of the Members.

Again, I want to thank you for the privilege of serving as your speaker over the past year.



# Annual Executive Director's Report:

## A year of progress



David A. Banta, Executive Director

I am very pleased to give the Annual Report of the Executive Director of the Maryland Pharmaceutical Association. This past year has truly been one of accomplishment and challenge. Yet, challenges are simply unmet opportunities for us to further improve our profession through the Association.

Since I allow myself only a once-a-year speech to the membership concerning my perspective of the Association in review, I will attempt to execute it with a maximum of brevity and a minimum of rhetoric without becoming too nostalgic in the process.

If you have reviewed the Committee reports that have been distributed to you, I think one thing must become forcefully obvious. This Association, in spite of crippling national inflation and the trend to apathy, is not only growing, it is prospering and becoming stronger with each passing year.

This growth itself, in terms of membership and financial resources, offers a challenge to us. Are we capable of adjusting from the status quo? Can we manage the transition to a capable, aggressive and responsive organization to meet the needs of the members in new and innovative ways? I think that answer is pretty obvious, or we would not have come as far as we have to date.

There is a lot of favorable chemistry in this state. That may sound a little strange, but let me explain. Maryland is blessed with a unique combination of factors which allow Pharmacy here the environment necessary to advance in progressive ways.

Maryland is a unique mixture of urban and rural geography and various professional practice settings that include retail, hospital, government, research, education and more. There is something about Maryland Pharmacy that informs the outsider that important things are possible in this environment. Maryland was, after all, the first state to pass the model drug product selection law. We have one of the finest schools of pharmacy in the nation. Even our advances on the third party front have made national news. Our Board of Pharmacy is growing stronger each year and the models for cooperation between our various state organizations are the envy of other states. I can sum all of this up by saying that I am proud of the past and optimistic for the future.

Such optimism, however, brings with it a certain sense of liability. Performing this job as I have over the last three years, I am constantly aware of the fragile nature of our

success. The bottom line is that no Association can be successful without the involvement of its membership. Membership involvement is another constant challenge we must continue to meet successfully. We have accomplished what we have because of the dedication and hard work of a number of individuals who give of themselves and their time with little recognition. I am speaking of the officers, trustees, committee chairmen and Committee members. I am speaking of the individual members who volunteer to handle tasks for the Association. We are blessed with a number of these individuals and they are the cornerstone of whatever success we may enjoy.

I would also like to recognize and thank two other hard-workers who, while they are not pharmacists themselves are probably among Pharmacy's most loyal supporters. I am referring, of course, to Sharon Spies and Mary Ann Frank of the MPhA office staff. Sharon, who to many of you is that cheerful voice on the other end of the telephone line, single handedly does an enormous amount of work for pharmacy. On November 21, 1980, Mary Ann Frank, our part time bookkeeper, will enter her twentieth year of employment with the Association. Together their labor and loyalty on our behalf is one of the major reasons we can issue the favorable reports we have today.

Yet the challenges we face as an organization are formidable. There are still more non-members than members in the MPhA. We must continue to build the Association's reserves, while improving benefits and services to the members. We must increase our lobbying efforts and the involvement of pharmacists in the political process. We must continue our fight for the economic viability of community pharmacy practice. We must work to expand the scope of care that pharmacists can provide to the public while being reimbursed for that increased service. And we must plan for our future so that we control our own professional destinies. Too often pharmacy has reacted to negative changes, rather than working to create positive changes.

I know we can accomplish these goals and more. Next year's report, I know, will reflect again the growing strength and growing pains of the Association. It has been a pleasure for me to work for you over the past year. Let us continue together to work for pharmacy's future and face the challenges through a strong Maryland Pharmaceutical Association.

Thank you.



# Some of the best served Pharmacies in America are located here.

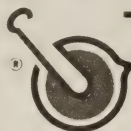


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**Baltimore Division**  
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Al Turner

**Johnstown Division**  
(814) 288-5702  
Neil Smith

# MSHP Pledges Continued Cooperation

Please accept my apologies for not attending your House of Delegates session today. A scheduling conflict precludes my being with you. On behalf of the members, officers and board of the Maryland Society of Hospital Pharmacists, please accept my best wishes for a successful and enjoyable meeting.

It has been traditional for pharmacy organizations to emphasize their differences to promote their own causes. It is true that we often differ in our approach to problems, but as we have found in recent years, once we look at the actual issues confronting us, our wants and needs are compatible.

MSHP has worked very closely with MPhA and the school this year. I believe we have presented a united front in dealing with our friends and adversaries.

In legislative matters MPhA, under David Banta's able guidance, has taken the lead by taking clear logical stands on many issues. The Society has promoted those issues on which there is agreement and not disputed the stands taken by MPhA when there is room for disagreement.

MSHP, in joining the Pharmacy Continuing Education Coordinating Council and supporting it with manpower and financing, accepts the premise that educational opportunity is needed by all facets of the profession and the necessity to coordinate it with all organizations who could benefit.

Many issues affecting pharmacy have not been resolved during this period of cooperative effort, and it is appropriate to challenge pharmacy organizations to direct their efforts toward resolving them. Some of these questions are what to do about technician training programs, mandatory patient profiles, mandatory continuing education.

I thank you for your efforts in behalf of MSHP and pledge our continued cooperation in future endeavors.

Respectfully submitted,

Ronald C. Telak  
President, MSHP

## Good year for women in Pharmacy

In 1979 the Maryland Commission on Women in Pharmacy was named as a joint committee of MPhA and MSHP and as a continuing education program by the MD Continuing Education Council. Bonnie Levin, past co-chairperson of the commission, gave testimony at a meeting of APhA's Task Force on Women in Pharmacy, expressing views on the perceptions of the role of women in the profession and the impact on the profession of the increasing number of women pharmacy graduates.



Carla Snuggs delivered the Women in Pharmacy report to the House

The commission met several times during the past year. Business and planning meetings were held in October and December. On January 16, 1980 the commission presented a program on Financial Planning. Elizabeth Morrison, a financial analyst currently serving as a member of the MD Commission for Women, addressed a large group in the Kelly Building. Also in attendance was Estelle Cohen, a member of the APhA's Task Force on Women in Pharmacy. Ms. Cohen consulted the group on how the influx of women will affect the profession. A short business meeting followed where Bonnie Levin and Wendy Klein-Schwartz stepped down as chairperson and Luisa Massari, Carla Beckman, Lynda Oderda and Karen Disney agreed to form a committee to coordinate the group. Madeline Feinberg was commissioned by the coordinating committee to design a letterhead using the MPhA and MSHP logos with the words, "The MD Commission on Women in Pharmacy, A Joint Committee of MPhA and MSHP." On April 13 Lynda Oderda and Karen Disney represented the group at "Drugs in Pregnancy and Lactation" a continuing education seminar sponsored by Delaware Valley Women in Pharmacy in Philadelphia. The group also co-sponsored a "Forum for Women" on career planning at the APhA-ASHP Annual Meeting in D.C. Future plans include a continuing education program and a general meeting in September 1980.

The MD Commission on Women in Pharmacy would like to thank the MD Pharmaceutical Association for its support and the use of its facilities. A special thanks to Dave Banta for always being there.

delivered by  
Carla Snuggs

Additional reports will appear in the August issue of the Maryland Pharmacist.



You would be too, if you had his job.

After earning his pharmacy degree at Purdue, Ed Strzelinski worked in a community pharmacy, but always wanted to make pharmaceutical products, in the large sense.

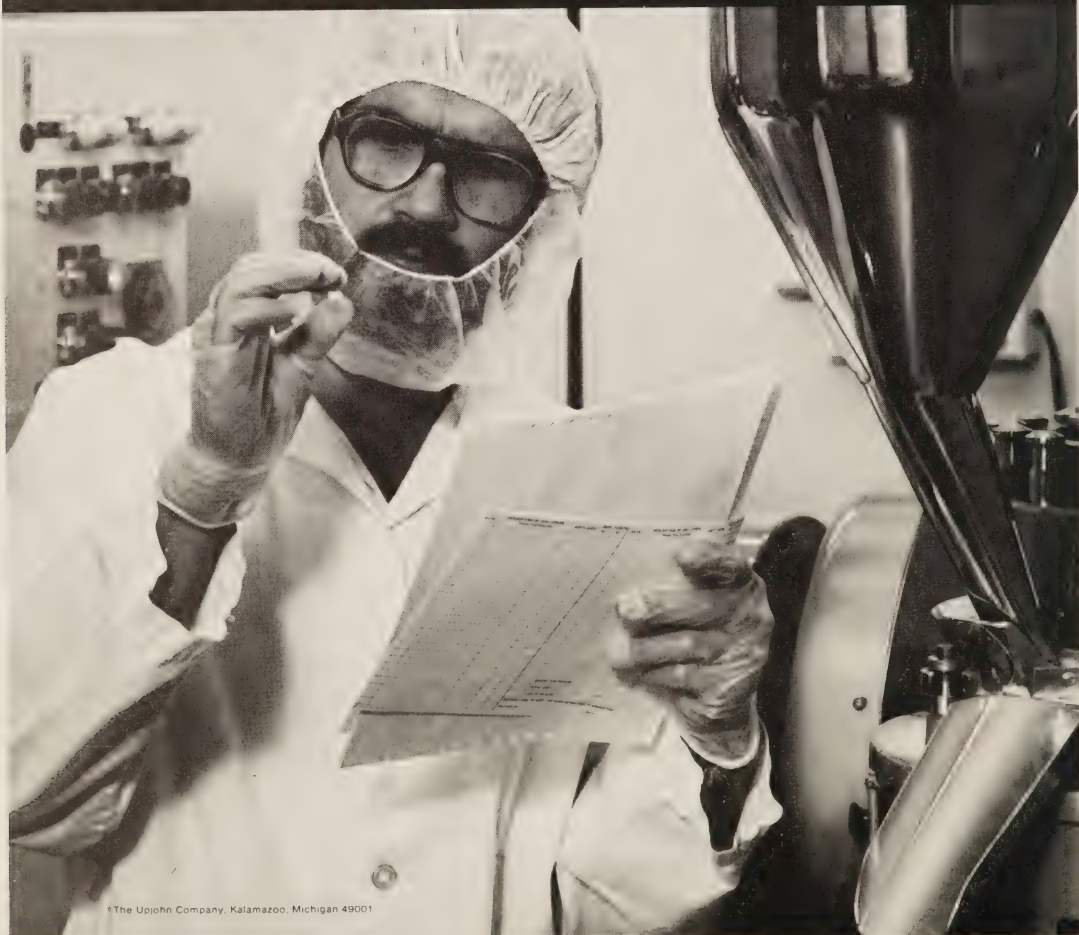
Today he makes very good ones . . . in our Dry Products Research and Development Technology Laboratory . . . with the finest equipment found anywhere. But he's still not satisfied.

You see, his job is to take active compounds from the chemist's bench and develop them into high quality finished dosage forms — not just as good as, but better than has been done before — then design and develop the processes to do this on a large production scale.

Ed is one of 376 pharmacists at Upjohn who are proud of their role as members of the health care team — and their partnership with your side of the counter

**Upjohn**

## ED'S VERY PICKY ABOUT HIS PILLS.



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# Primary Care Committee Report

As charged by the House of Delegates at Tamiment last summer, the Primary Care Committee has begun to evaluate the feasibility of pharmacists providing primary care services to patients in Maryland.

Working in conjunction with the clinical facility of the School of Pharmacy, legal council and community pharmacists, our committee has been involved in the following activities.

1. Nationwide Survey conducted to identify similar activities in other states. California and North Carolina have enacted experimental enabling legislation, the Indian Health Service has provided these services for several years, and several more states are in the developmental stages.
2. Evaluation of development stages potential certification processes for primary care pharmacists:
  - a. Existing organizations
    1. APhA — Clinical Practice Section
    2. ASHP — Ambulatory Care SIG
    3. ACCP — (American College of Clinical Pharmacy) recently formed
  - b. In-state — the Clinical facility and this committee are currently designing a certification system. It will be offered on an experimental basis to PharmD students and graduates, and then will be offered to all interested pharmacists. Projected implementation in 1981.
3. Legislation:
  - a. Legal council interpretation of existing Pharmacy Practice Act did not appear enabling for prescribing activity.
  - b. Several pieces of legislation introduced recently are of interest, and may prove useful to use in the future:
    1. Expanded Practice of Pharmacy Act: adopted 3/27/78.
    2. HJR-10 — Pharmacists Administering Tests — failed (to appoint committee to study pharmacists administering diagnostic and therapeutic laboratory tests to ambulatory patients).
    3. HB 1712 — Restrict sale of OTC Pregnancy Tests to Pharmacists — failed
4. Pilot Projects
  - a. Several practice sites have been studied to initiate a pilot project for evaluation of scope and documentation of services.
  - b. Grant funding is under study for economic support and research. Potential sources include the Area Health Education Council (AHEC) and the National Council on Health Services Research (NCHSR).
5. Reimbursement for services — under investigation
  - a. Medicaid Liaison Committee — proposal for additional reimbursement for voluntary use of patient profits for Medicaid recipients currently under study.
  - b. Home Health Care Association — indirect reimbursement for Community Mental Health visits by pharmacists.
  - c. Third Party Reimbursement through primary physician.



Primary Care Committee Chairman, Bonnie Levin

6. Education
  - a. see 2B — certification training program
  - b. In conjunction with the Continuing Education Coordinating Council, we are planning a C.E. program on the role of the pharmacist in primary care.

For any further information, please feel free to contact me.

Respectfully submitted,

Bonnie Levin  
Chairperson

## calendar



- AUG 3 (Sun) — Upper Bay Pharm. Assn — Crab Feast — contact Jim Terborg 272-1122
- SEPT 7 (Sun) — CECC program sponsored by Lederle: "Consulting With Your Patient", Twin Bridges Arlington, Virginia
- SEPT 21 — CECC program sponsored by SKF and Spectro Wholesalers Communipharm management — College Park, Md.
- SEPT 29 — NARD 82th Annual Convention, Atlanta Georgia
- OCT 18 (Sat) — Alumni Assn — Oyster Roast
- OCT 26 — MPhA CARRIBEAN CRUISE ON S.S. CARNIVALE
- NOV 9 (Sun) — MPhA Dinner Theatre, Burn Brae "Mame"
- JAN 17 — MPhA Aruba Trip

Every Sunday Morning at 6:15 a.m. listen to Charles Spigelmire on WCAO broadcast the Pharmacy Public Relations Program "Your Best Neighbor," the oldest continuous public service show in Baltimore.

# Board of Pharmacy Report to the M.Ph.A.

delivered by  
Paul Freiman, Secretary

In compliance with the provision as set forth in Section 285 of Article 43 of the Annotated Code of Maryland, this report is submitted to the Honorable Harry Hughes, Governor of Maryland and to the Maryland Pharmaceutical Association. This is the seventy-seventh report to the Governor and the sixty-seventh report to the Association. The report covers the activities of the Maryland Board of Pharmacy for the fiscal year ending June 30, 1980. This report is also being submitted to the Secretary of Health and Mental Hygiene, the McKeldin Library of the University of Maryland, the Enoch Pratt Free Library, the Department of Legislative Reference, the Hall of Records, and the State Library.

## PERSONNEL

During the year the Board held nineteen meetings, seven of which were held at the School of Pharmacy of the University of Maryland, for the purpose of conducting examinations for registration of pharmacists.

Bernard Lachman was elected President and Paul Freiman was elected Secretary-Treasurer of the Board.

Roslyn Miller is the Administrator; Debbie Nagle is the Steno-Clerk III and the Steno-Clerk II position is held by Margaret Lloyd.

## EXAMINATION

The Board conducted two examinations for registration of pharmacists during the fiscal year. They were held at the School of Pharmacy of the University of Maryland on September 25, 26, 27, 1980 and June 24, 25, 26 and 27, 1980.

The applicants who were examined in June of 1979 were licensed in July 1979 which is in F.Y. 1980. There were one hundred and seventy-eight applicants for the Board in June, 1979. One hundred fifty six passed both the theoretical and practical portions of the examination and were subsequently registered. Nineteen failed the examination. Having previously passed the theoretical portion of the examination, three candidates took the practical examination in June. The candidates passed and were subsequently registered.

There were twenty-three applicants for the Board in September, 1979 (F.Y.80). Eleven passed both the theoretical and practical portions of the examination and were subsequently registered. Five failed the examination. Having previously passed portions of the examination, seven candidates took the practical examination in September. The candidates passed and were subsequently registered.

Data relative to the June 1980 examination will be given in the next Annual Report.

The Standard Examination of the National Association of Boards of Pharmacy was given, which consisted of the following subjects:

Chemistry  
Pharmacy  
Mathematics  
Pharmacology  
Practice of Pharmacy  
Laboratory  
Jurisprudence

The Jurisprudence examination which was compiled by a member of the Board was given as a part of the practical portion of the examination, as well as the compounding of three prescriptions per applicant. The following table shows the number of pharmacists who were registered by examination during the past ten years:

YEAR	NUMBER OF PHARMACISTS
1970-1971	112
1971-1972	133
1972-1973	96
1973-1974	111
1974-1975	113
1975-1976	109
1976-1977	166
1977-1978	150
1978-1979	137
1979-1980	180

As in the past, many pharmacists applied for reciprocal registration in Maryland in order to accept positions with their employers who are opening stores in Maryland. Those applicants who did not meet our requirements concerning practical experience prior to or after registration were advised that they must take our practical examination in order to verify their qualifications.

In all cases an applicant for reciprocal registration must appear for a personal interview. The entire Board must act on whether or not to grant registration to such applicants, who must sign an agreement to comply with Maryland's laws pertaining to drugs and pharmacy.

The following table shows the number of pharmacists granted registration by reciprocity and the number who were certified to register by reciprocity in other states during the past ten years.

Fiscal Year	Reciprocity	Certification
1970-1971	92	26
1971-1972	67	35
1972-1973	94	57
1973-1974	88	63
1974-1975	76	45
1975-1976	89	44
1976-1977	78	68
1977-1978	91	77
1978-1979	113	42
1979-1980	73	69
Total	861	524

The table shows Maryland gained 335 pharmacists by reciprocity during the past ten years.

New permits to operate a pharmacy were issued to 24 firms for the 1980 Fiscal Year.

### PHARMACY PERMITS

Location	1979-1980
<b>Counties:</b>	
Allegany .....	1
Anne Arundel.....	3
Baltimore .....	7
Carroll.....	2
Caroline .....	1
Dorchester.....	1
Frederick .....	2
Montgomery .....	1
St. Mary's .....	1
Washington.....	1
Worcester.....	1
<b>County Totals .....</b>	<b>21</b>
Baltimore City .....	3
<b>State-Wide Totals .....</b>	<b>24</b>

### MANUFACTURERS' PERMITS

New permits to manufacture drugs, medicines, toilet articles, dentifrices or cosmetics during 1980 were issued to five firms.

### DANGEROUS DRUG DISTRIBUTORS' PERMITS

The Board issued six new permits to sell, distribute, give or in any way dispose of dangerous drugs during 1980.

### LEGISLATION

The following legislation which affects the profession of pharmacy either directly or indirectly was enacted by the 1980 Maryland General Assembly.

List of Bills that were enacted during the 1980 Legislative Session.

Bill No.	Purpose
HB 535	To prevent the Maryland Pharmacy Assistance Program from reimbursing providers for items currently determined to be ineffective by the U.S. Food and Drug Admin.
SB 305	To place one or two consumer representatives on each regulatory Board for the Health Occupations.
SB 646	To provide for payment to Physicians for pharmaceutical services to their patients when a pharmacy is not located within a 10 mile radius of their practice.

### ADDITIONAL INFORMATION:

**HB 535** — At the time this report is being written the Board has contacted the FDA for a list of ineffective drugs so that pharmacists can receive this information prior to the effective date of this legislation.

**SB 305** — At the present time the Board of Pharmacy has one consumer representative. As a result of this bill the Governor will appoint a new public member to serve for a four year period beginning July 1, 1980.

**SB 646** — The board of Pharmacy has requested that the Governor veto this bill. The Board felt that it could lead to an abuse of the Pharmacy Assistance Program, and that the problem of Pharmaceutical services in rural areas could be better addressed than through this legislation.

Other bills passed that may affect the Board of Pharmacy were HB 1666 which modifies the Sunset Act of 1978 and SB 63 which forbids the sale of various drug paraphernalia in the State.

Other bills that failed were a bill to repeal in Price Poster Law, one that would require identification on the finished dosage forms of prescription drugs, and one that would forbid the sale in Maryland of drugs that did not have a new or approved drug application from the Food and Drug Administration.

### DISCIPLINARY ACTIVITIES

The Board of Pharmacy receives complaints from the public concerning problems with the Board's licenses. During the first half of the fiscal year 1980, 68 complaints were received. There was a wide range of complaints which varied in severity. The most common complaints were for prescriptions being filled incorrectly or being mislabeled. The Board revoked one Pharmacist's license for conviction of violation of Drug Laws.

### COOPERATIVE ACTIVITIES

The Board maintained membership in the National Association of Boards of Pharmacy. The annual meeting of the Association was held in Boston, Massachusetts on May 3-May 7, 1980. The Board was represented by Mr. Bernard Lachman, Ms. Estelle G. Cohen, Mr. Leonard J. Demino and Mr. Robert E. Snyder.

The Board also maintained membership in the Conference of Boards and Colleges of Pharmacy of the National Association of Boards of Pharmacy, District Number two, comprised of the states of New York, New Jersey, Pennsylvania, Delaware, Maryland, the District of Columbia, Virginia and West Virginia.

The Board maintained cooperative activities with the State Department of Health and Mental Hygiene, the School of Pharmacy — University of Maryland, the Maryland



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We try to help you by providing quality products, policies and pertinent information—like Pharmascan®, which is distributed by our Representatives, assistance for many Continuing Education seminars, and a host of other educational materials that touch on all aspects of your profession. It's our way of recognizing your vital contribution to community health care.

398-2633-A



Pharmaceutical Association, the Federal Drug Administration, the Food and Drug Administration, City, County and State Police and all Boards and Pharmacy Schools throughout the country.

### FINANCES

All funds of the Board of Pharmacy are deposited to the credit of the Treasurer of the State of Maryland and disbursements covering the expenses of the Board are paid by voucher by the State Comptroller.

### Financial statement

The Board of Pharmacy had revenues of \$33,006 in 1978 and \$95,404 in 1979. The Board of Pharmacy had expenditures of \$28,377 in 1978 and \$43,628 in 1979. The Board's budget is \$44,942 for 1980 and \$50,156 for 1981.

### OTHER ACTIVITIES

In addition to the President Bernard Lachman and Secretary Paul Frieman, the Board consists of the following commissioners: Ralph Quarles, Robert Snyder, Leonard DeMino, Anthony Padussis, and Estelle Cohen. All the Commissioners are registered pharmacists in the State of Maryland with the exception of Ms. Cohen, who is a consumer (public) member of the Board.

In 1980, the Board of Pharmacy began publishing with the cooperation of the National Association of Boards of Pharmacy a newsletter on a quarterly basis. This publication is distributed to all registrants and contains information on new regulations, laws, concerns of the Board, and an opportunity for pharmacists to state their concerns to the Board. The newsletter also contains news of National interest and concern to Maryland Pharmacists.

The Board in 1980 promulgated a regulation that modernizes and updates the equipment necessary to open a pharmacy. The Board is also at this time introducing regulations that will assure security of a pharmacy, and establish institutional guidelines for pharmacies, and will change the wording of the hearings regulations so that the Board, upon ruling, can revoke a pharmacist's license while he is appealing to the courts.

In 1980, the Board continued its excellent relations with the Department of Health and Mental Hygiene. The cooperation and courtesy extended to the Board of Pharmacy by all members of the Department is appreciated by all the Board members.

Again the Board must commend our administrator, Ms. Roslyn Miller for her continued excellent management of the Board's daily business. Through her efforts the Board continues to operate smoothly and efficiently. In addition, the Secretary must commend both of our excellent secretaries Debbie Nagle and Margaret Lloyd for their excellent work and cooperation.

In addition to the added items as stated, the Board participated in many activities too numerous to mention. All of the Commissioners actively participated by serving on various committees appointed by the President, attending numerous meetings throughout the State, and being available for consultations and special meetings when necessary.

## Patient Information Book Available from USP

A series of patient education aids to proper drug use has been initiated by the United States Pharmacopeial Convention, Inc. (USPC), publisher of the official U.S. compendia of drug standards.

"Advice for the Patient" is a lay-language volume of drug use information, designed as a reference book for patients in hospitals, medical offices and pharmacies. The 320-page book contains monographs for over 400 generic drug substances or combinations. An extensive brand-name index is included to facilitate drug identification. Each monograph describes the anticipated effects, both good and bad, when and how to take the drug, and precautions in taking it with other drugs and when pregnant and breast-feeding, or old or young.

"Physicians, pharmacists and nurses are increasingly interested in educating their patients about the drugs they are asking them to take, and patients are increasingly interested in receiving such information," USPC Executive Director William Heller said. "This is the most comprehensive volume yet produced in lay language, yet is so inexpensive that it can be kept in every physician's waiting room and on every pharmacy counter. Consistent repeated messages about proper drug use will help the consumer to retain information and increase compliance — resulting in better health care."

USPC has also made available a series of brochures of individual drug monographs. Brochures currently available are Insulin, Glucagon and Oral Antidiabetic Medicines. Under the USP DI copyright notice, health professionals are given permission to copy the USP DI Advice for the Patient for use in their practices. It is anticipated, however, that large-scale printings of some of the more popular monographs will make them available less expensively.

"Advice for the Patient" and the individual drug monograph brochures are abstracted from *USP Dispensing Information*, a complete drug use information handbook, with sections for both the health professional and the consumer. The first section of USP DI provides information for the dispenser on precautions relating to medical history, pregnancy and breast feeding; side effects and drug interactions; dosage forms and storage; and patient consultation guidelines. The latter are coordinated with the second section, the actual lay-language advice for the patient. The annual *USP Dispensing Information* is continuously updated through a bimonthly addition of new and revised monographs.

The complete *USP Dispensing Information*, including bimonthly Updates is \$18.75 per year. "Advice for the Patient" alone is \$7.50. Inquiries should be addressed to USPC-DID at 12601 Twinbrook Parkway, Rockville, MD 20852 (301/881-0666).

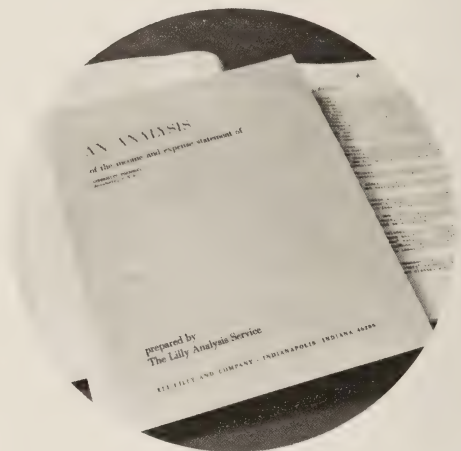
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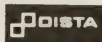
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Dear Dave:

After reading the President's Message in the June issue of *The Maryland Pharmacist*, I felt it necessary to comment on President Lubman's belief that "youth and beauty" are a "winning formula" for the association. It is my belief that a productive future for the association depends not upon youth and beauty; but rather upon ambition, enthusiasm and motivation; attributes which can, and hopefully will, be displayed by both male and female members of all ages.

Sincerely yours:

Karen Disney

Dear Sir:

The recent action by the Board of Pharmacy in its changes in the rules governing the expiration dates on the labels of prescriptions indicates a problem that should be examined by the profession.

Why was the law passed in the first place? Was it to prevent the dispensing of outdated products? There are already laws forbidding this practice. This law is intended to inform the patient when to dispose of the medication. There are many times when this can be an advantage to those persons with chronic or reoccurring ailments such as asthma or allergic conditions. However, it could also be dangerous and encourage self medication with potent drugs retained from previous illnesses or transferred to other people with a self-diagnosed similar sickness.

Manufacturers' expiration dating is based upon unopened original containers at controlled temperatures. Once the package is opened and exposed to uncontrolled humidity and heat, the expiration date is no longer valid. The action of the Board of Pharmacy recognizes the problem and tries to correct it. As a result, we have a new regulation that is a farce and which if some enterprising reporter decides to write an "expose" will result in some very red faces on the Board.

There are times when expiration dating of prescriptions is important. This should be a professional prerogative of the Pharmacist, not a law. However, at the present time not enough studies have gone into this matter. The School of Pharmacy should develop a project that will help clarify and define this issue.

Sincerely,

Melvin J. Sollod

Dear Mr. Banta:

The APhA Weekly, May 7, 1980, contains a brief message alerting pharmacists to "Watch for differences in phenytoin sodium caps." The statement points out that the USP XX, which is effective July 1, differentiates between the two types of phenytoin sodium capsules: Extended Phenytoin Sodium Capsules and Prompt Phenytoin Sodium Capsules.

The message does *not* say that Extended Phenytoin Sodium Capsules are *DILANTIN® KAPSEALS®* and

Prompt Phenytoin Sodium Capsules are *all other* phenytoin sodium capsules.

The distinction between Kapseals Dilantin (extended phenytoin sodium capsules, USP) and all other phenytoin sodium capsules (prompt phenytoin sodium capsules, USP) is due to the unique manufacturing process used for Dilantin Kapseals that provides a relatively slow rate of dissolution and extended delivery of the drug that permit a once-a-day dosage (once seizure control has been achieved on divided doses). All other phenytoin sodium capsules have a more rapid rate of dissolution and prompter delivery of the drug and, therefore, are not suitable for once-a-day dosage.

There is risk in freely substituting prompt phenytoin sodium capsules for extended phenytoin sodium capsules. The importance of this risk lies in the grave danger of acute phenytoin intoxication or subtherapeutic phenytoin blood concentration if prompt phenytoin sodium capsules are substituted on a single-dose basis in a patient receiving a single daily dose of Dilantin Kapseals.

The APhA message continues:

Between now and July 1, pharmacists renewing prescriptions for products previously labeled as phenytoin sodium capsules should routinely begin to determine:

- (a) if the brand has been reformulated;
- (b) whether the product is now extended or prompt phenytoin sodium capsules; and
- (c) which product the physician intends for the patient to continue to use.

**DILANTIN KAPSEALS HAVE NOT BEEN REFORMULATED.** The new classification of phenytoin sodium products as EXTENDED and PROMPT resulted from the introduction of generic products, none of which possesses the unique dissolution and absorption characteristics of DILANTIN KAPSEALS.

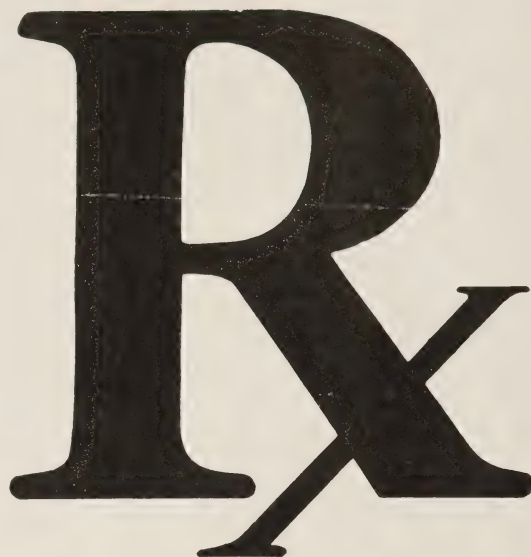
Thus, any patient currently receiving DILANTIN KAPSEALS is receiving EXTENDED PHENYTOIN SODIUM CAPSULES. Any patient receiving a generic phenytoin sodium preparation is receiving PROMPT PHENYTOIN SODIUM CAPSULES.

One would expect the physician to continue to maintain patients on DILANTIN KAPSEALS if that is the product on which the patient's seizure control has been achieved. Certainly, no substitutions should be made without the physician's explicit permission and his or her full knowledge of the pharmacokinetic differences between DILANTIN KAPSEALS and generic brands of Prompt Phenytoin Sodium Capsules.

In accordance with recommendations of the Epilepsy Foundation of America (*The National Spokesman*, July, 1979) and the Food and Drug Administration (*FDA Drug Bulletin*), Volume 8, No. 4, August-September, 1978), if a change is to be made in either the brand or the dosage form of phenytoin, blood levels should be carefully monitored and dosage adjustments should be based on blood level data.

It may be several months before Dilantin Kapseals labeled as extended phenytoin sodium capsules will start appearing in drugstore and hospital inventories. In the meantime, it should be made clear that all Dilantin 30- and 100-mg Kapseals are extended phenytoin sodium capsules, USP.

Arthur D. Flanagan, M.D.  
Vice President, Medical Affairs



# Rx

*"Buy some magazines, paperback books  
and comics, and come back to see us  
again in a few days."*

That's the prescription you can fill again and again for your customers if you have a fully stocked magazine department.

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Think big. The great majority of our customers did more business with us in 1977 than in 1976.

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## Picture Page



Graduating Pharmacy Students Brian Sweeney (left) and Bill Windham perform their hit "Weeds and Seeds" at the Fifth Year class party in the Kelly Memorial Building basement.



All three pharmacy classes held parties at the Kelly Building celebrating the end of another school year.



The incoming officers and Trustees of the Maryland Pharmaceutical Association are shown after the Convention Banquet.



This is how it will look in 1983. Ground breaking ceremonies for the new Pharmacy School Building were held on June 23rd.

This picture space  
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# Alumni Association Honors Melvin Rubin At Graduation Banquet



Honored Alumnus, Melvin Rubin

I am happy to welcome the newest Alumni of the School of Pharmacy. For those of you who have justifiably toasted yourselves on attaining your degree, I offer a sobering thought. The profession doesn't owe you a place because you have passed the five year initiation rites.

Since you are now the profession, that debt must be paid to you yourselves. You owe it to yourself to *prove* and *improve* yourself. The diploma opens the door and each step inside will require judgemental decisions. What practice setting will you choose and how much effort will you put into your performance.

I hope that many of you will eventually wind up as independent practitioners. That's a modern term for store owners. I see the principal reason for the decline of independent stores not due nearly as much to external competition, as from the competition that comes from within. This is always that part of youth that rebels at having to work 70-80 hours a week for several years. It is a rare and lucky person in any profession or business who earns substantially more than the average, without undergoing another set of initiation rites; such as having to work three times as long and three times as hard to be *twice* as successful. This applies to store owners as well as success stories in corporations, government and hospitals. If you like to work nine to five with no overtime, I hope you are content with three squares and a roof. The extras come with effort.

Although you undoubtedly need several years of on-the-job experience before opening a business, it's not too soon to assume the work habits that will help you reach your goals. Often this means new definitions. To some people, being to work on time means leaving the house at 9 a.m. if you are due at 9 a.m. To others it means getting there early enough to make sure you are *physically and mentally* ready when the doors open, to provide as much uninterrupted patient care as your practice setting allows.

This leads me to a point about mental attitude. You saw what happened to the Colts when they were not mentally prepared to play without Bert Jones and you saw the unexpected heights the Orioles reached last year.

If you believe you are capable, and if you enjoy your work, you *have* to be more successful. Pharmacy has a lot of

room for success stories in every area. However, I must give you a word of caution. If you expect a reward for each good performance you will be disappointed. Establishing patterns of habits and good performance will pay off in time. Be patient, persistent, and don't be overly sensitive about immediate acceptance.

I wish all of you luck because it never hurts to be in the right place at the right time. Frankly, if the right place is not independent practice for some of you, we will all be the losers. I am convinced that, if the profession does not have an entrepreneurial function, the pay scale will suffer for all. If collectively, pharmacists give up the alternative of working for themselves, there will be less reason for salaries and recognition to increase.

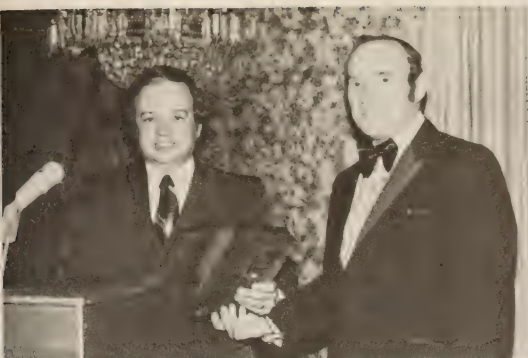
Unfortunately, having a needed skill to offer does not always assure appropriate remuneration. Look at the low salary of nurses. If the nurse practitioner movement grows, so will the salaries.

An educator is unlikely to own his own school and teachers' salaries lag behind. On the other hand, physicians, being largely independent practitioners, are able to market their services for a higher price. If you do not think of physicians as "store owners," it is only because you can not see the cash register.

I graduated exactly 25 years ago, at that time almost everyone went right from school to a chain pharmacy to gain experience. Anytime we did not work 20 unpaid overtime



Pharmacists received their special Awards for serving pharmacy for 50 years.



Incoming Alumni Association President Sanford Rosenbloom (left) receives an award from President Bernard Macek. The Annual Graduation Banquet was held May 29, 1980, at Martin's Eudowood in Baltimore.

hours in addition to the normal 54 hour work week, we were conditioned to feel guilty.

Frankly, I believe we were all better off for their experience. Of the 60 graduates that year, 25 have owned their own pharmacies, two are hospital administrators, two are chain supervisors and several head practice areas in hospitals. All have reflected the profession's image well.

I don't want to leave you with the impression that being a store owner is necessarily a mark of success. However, just as the PharmD, performing well in the proper setting brings credit to the profession, the outpatient pharmacist whether hospital, chain or independent, shows the world what we can do. Pharmacy needs owners willing and able to improve and expand the care we offer; uninhibited by non-pharmacist owner decisions.

I would like to make a point about working for a chain for experience or career development. Management is very sensitive to the perceived needs of the public. All that is necessary to allow you to practice the way you want is to demonstrate to management that the patient reacts positively to counseling and other services. You may have to work overtime to catch up on the paperwork, but don't complain that the opportunity is not there. You simply have to give more of yourself. I have no experience in hospital pharmacy but I suspect the same principles for success apply.

There will be a lot of debate over the degree pharmacists will receive in the near future. But whether we are PharmD's



The 1980-81 officers of the School of Pharmacy Alumni Association.

or B.S.'s, we will always have a clinical function in the community. Well before fancy terms and patient profiles, when they were still "customers", people ran to "Doc" for advice, treatment, and medication. We are all "clinical pharmacists" whether we want to be or not. Those of us in the community will always be the initial contact for many patients. My contemporaries have done a good job for years deciding when to handle the problem themselves and when to refer the patient to a physician. You have all had better technical training to do this than my generation. When you attain the proper "counterside manner" which comes from experience, you will be performing what I consider to be the traditional functions of the pharmacist better than those who went before you. *Do not let people take those functions for granted.*

I have a lot of people to thank for the award tonight. I suppose I should thank the Alumni Association first, but I keep flashing back to the first pay check I received in the army, when I thanked the sergeant, he snapped something like "if you deserve the pay don't thank anyone for it. If you don't deserve it — give it back." I have no intention of giving this award back.

I do thank my parents, my wife Phyllis, my in-laws, my children Neil and Stephanie, good friends such as Paul Goldstein, and my partner John Strauch, all of whom, in their overlapping turns, had to understand why it was important to me to be so deeply involved in my profession.

Thanks to Harry Bass, who may not even remember that he first introduced me to organizational responsibility when he made me brotherhood chairman of AZO.

Thanks to those who guided and pulled me along such as Paul Freiman and Don Fedder. Unlike the pace cars at Indianapolis, Paul and Don never go to the sidelines and all of us are better for their efforts.

One other person must be mentioned. Henry Seidman was teaching us by example many years before the school recognized his ability and devotion. In an article prepared for AZO's bulletin shortly before Henry's death, he capsulized his feelings for the profession while chastizing the minority of pharmacists who take from the profession and offer back only complaints and criticism.

While I was working on this speech my daughter asked me if it was going to be funny and I said, "No, this is my chance to tell the graduates how to become successful and if I don't do a good job they might be failures," Stephanie said, "Maybe they'll be better off if you try to be funny."

However, if any of my comments did hit a responsive cord, you may now be in danger of taking yourself and pharmacy *too* seriously and there are pitfalls in that too. I am sure you will gain respect by your actions but, anytime you start believing that being called a professional makes you something special *just because of the word*, remember the TV ad, "Professionally speaking I use Ajax." If you really need to come down to earth fast, remember that pharmacy is not the world's oldest profession.

But most of all, remember that you soon will be legally able to perform all the tasks of the pharmacist, now you have the chance to show that you are mentally ready. I know you are able since now you have a diploma from the world's best pharmacy school.



# MPhA Mourns the Passing

Dear Dave:

The enclosed is more or less the obituary for dear old TAMPA. Publication of same should prove to be of more than passing interest to many MPhA members and will definitely be appreciated by the "TAMPA BOYS" who have such pleasant memories of a truly great era.

The write-up has been circulated among a dozen or more of TAMPA'S past officers and has been approved by them for publication. Your acceptance for inclusion in The Maryland Pharmacist at an early date will be highly valued.

With kindest personal regards:

Joseph J. Hugg  
Fund Raising Consultant

Another sad sign of the times was the recent announcement that TAMPA had decided to disband. In 1916 Maryland Pharmaceutical Association authorized the establishment of a Travelers Auxiliary. For the larger part of ensuing years, the "TAMPA BOYS" as they affectionately became known, endeared themselves to the parent association in particular and the drug-trade in general, primarily through their enthusiastic participation in the regional meetings and annual conventions.

TAMPA membership was predominantly comprised of representatives of manufacturers, jobbers, and sales agencies who served the drug trade. Most of these representatives were native to the area or moved into the area after being assigned here. They then lived and practiced their trade here over an extended period of time. Thus they had the opportunity to get to know their customers on more than a "hit and miss" basis. As a result many meaningful relationships were established.

2

*Respectfully dedicated to the Travelers Auxiliary,  
Maryland Pharmaceutical Association*

## March: "T. A. M. P. A."

*Gratefully acknowledging  
assistance from  
Miss Margaret Dewing*

Words and Music by  
A. A. M. DEWING

### March Tempo

PIANO

*ff Brilliantly*



The first system of the musical score is written for piano in 6/8 time. It features a treble and bass staff with a key signature of two flats. The melody in the treble staff begins with a quarter note G4, followed by eighth notes A4-B4, and a quarter rest. The bass staff provides a steady accompaniment with eighth notes. The dynamic marking is 'ff' (fortissimo) and the tempo/style is 'Brilliantly'.



The second system of the musical score continues the melody and accompaniment. It includes a key signature change to one flat (Bb) in the middle of the system. The dynamic marking is 'mf-f' (mezzo-forte to fortissimo). The tempo/style remains 'Brilliantly'.



# f Tampa

Recent years have seen a dramatic change in the pattern of contact between sales and service representatives calling on the drug trade and the proprietors, managers, buyers, etc. They were the focal point of their contact. Not only are the numbers greatly diminished but their turnover has been accelerated. All of which has removed the opportunity for building close and long lasting relationships which was the adhesive that held the association together.

In an effort to keep the association viable, TAMPA stalwarts considered and implemented many alternatives during the past few years but to no avail. Consequently, at a meeting of the governing body held on January 14, 1980 the fateful decision to disband was made. By unanimous vote of approval the treasury balance was donated to the University of Maryland School of Pharmacy.

Dean Kinnard's letter which follows provides a fitting eulogium.

Dear TAMPA Friend:

It was with much distress that I received the news of TAMPA's decision to disband.

Since TAMPA's inception in 1916 and through many decades thereafter, their objective, as prescribed in its by-laws, was "to cooperate with the Maryland Pharmaceutical Association in promoting the general welfare of the drug trade and assist in providing entertainment at the Annual Convention." Their record of successful compliance with this objective is outstanding. The history of the Maryland Pharmaceutical Association is liberally documented with the contributions your fine organization and many of its members made to the over-all well being of the parent association. It's a shame that changing times have brought about the demise of such a dedicated organization.

It is significant that your group, which during its lifetime dedicated itself to the best interests of pharmacy, should in its final act have the best interests of future pharmacists in mind. Your treasury balance of \$1,011.77 which you donated to the School of Pharmacy for aid to needy students has been duly noted and is hereby gratefully acknowledged.

Sincerely,

William J. Kinnard, Jr., Ph.D.  
Dean

JULY, 1980

## Classified Ads



Classified ads are a complimentary service for members.

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- For these and many other services, contact Sharon at the MPhA Office. (301) 727-0746.

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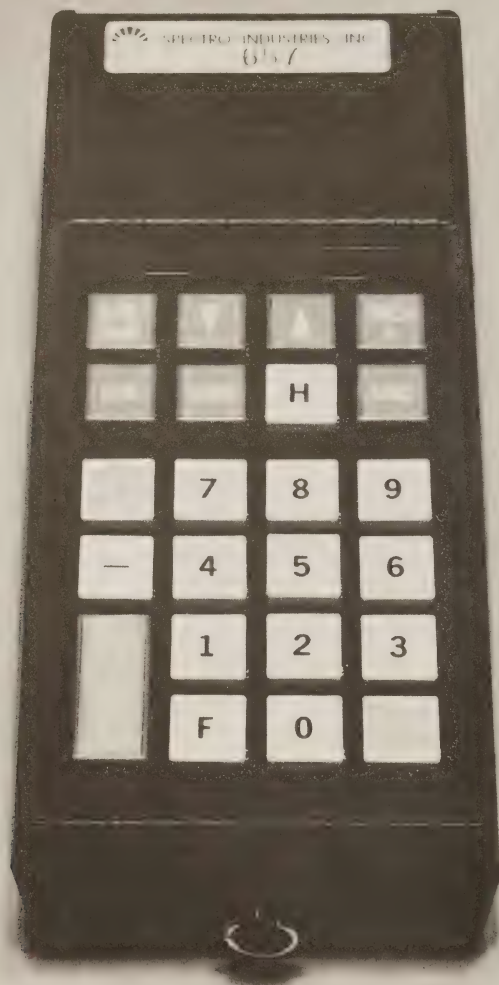
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# THE MARYLAND PHARMACIST

Official Journal of  
The Maryland  
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AUGUST, 1980  
VOL. 56  
NO. 8



## A list of FDA approved drugs in Maryland

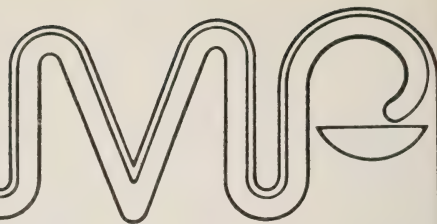
*(A Valuable Tool for Drug Product Selection)*

## Convention Resolutions and Committee Reports



# THE MARYLAND PHARMACIST

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AUGUST 1980

VOL. 56

NO. 8

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DAVID A. BANTA, *Editor*  
SHARON SPIES, *Assistant Editor*  
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Recognition of the activities and continuous efforts of Pharmacists and supporters of Pharmacy must play a large part in the Association's setting of goals and objectives. Let the Association know of your individual and group efforts on behalf of the profession and those that it serves and benefits.

Let not the community served by us be given the impression that the faults and misdeeds of a few practitioners are the rule rather than the exception by which we are known to that community. Stand up and be counted, not only as a member of your profession and your professional Association, but also as a member of the community in which you practice, be it institutional, clinical, educational or community. Do not be satisfied with mere existence from day to day. Do not complain about what is wrong with Pharmacy unless you are willing to work to overcome the obstacles you perceive are restraining you from attaining your professional goals and objectives.

Many have succeeded personally and professionally through optimism and positive thinking. Attainment of success is more difficult without positive directed effort. The Association and profession in Maryland are growing and thriving through the positive directed efforts of the recent dynamic graduates and the equally dynamic, constant efforts of the Executive Director, past and present Officers and Board Members, and the Dean and his faculty, et al (MSHP, ASCP, MACDS).

As I begin my second twenty years of practice and my second month of office, I see a bright ever-changing professional future in which we can all be satisfied and in which we can all be proud. Let us hear from you and about you.

*Samuel Lichter*

# A List of FDA Approved Drugs

An Aid to Maryland Pharmacists in Drug Product Selection



Pharmacists today are besieged by companies, large and small, near and far, trying to convince them to use their generic products. Changes in laws in recent years have allowed the pharmacist a great deal more discretion in choosing the brand of generic product the patient will receive, and indeed, the pharmacist is evolving as the purchasing agent for the patient with the responsibility to choose the least expensive brand available which meets acceptable pharmaceutical and therapeutic specifications.

A number of articles and guidelines have been published to give the pharmacist the ingredients to make this decision, but the speed with which new companies and new distributors blossom, as well as the availability of many more drug products which are no longer restricted by patent laws, creates a difficult and lengthy decision making process.

One criterion to use is whether a drug product has received approval of New Drug Application (NDA) or Abbreviated New Drug Application (ANDA) from the Food and Drug Administration. In such cases, the pharmacist knows that the FDA has examined and approved a detailed description of how the drug product is formulated, manufactured and tested. Exceptions to FDA requirements are drug products originally marketed before 1938, in which case, neither the innovator or imitator required FDA approval and a few 1938-1963 drugs in which the requirements are not clear. Unfortunately, some generic companies have recently decided to contest the FDA's right to require NDA's or ANDA's on post 1938 drug products and have deliberately marketed products without any approval. At the present time, the utilization of such drug products by the pharmacist in drug product selection is not recommended and definitely increases the pharmacist's risk. Examples of this are the following drugs distributed by Premo:

Hydrochlorothiazide + Triamterene Capsules  
Allopurinol Tablets  
Chlorthalidone Tablets

Trifluoreperazine Tablets  
Betamethasone Valerate Cream  
Hydroxyzine Pamoate Capsules  
Hydroxyzine HCl Tablets  
Doxylamine Succinate and Pyridoxine Tablets

How can the Pharmacist find out which products have NDA numbers? Neither FDA nor the manufacturers have made the information readily available. MPPhA has requested this data from many companies and will publish the lists as the information is received.

MPPhA has requested a number of companies to respond with a list of drugs which they market with approved NDA or ANDA. The following answered the request: Barre-National, Chelsea, Lannett, Mylan, Premo, Cord, Lederle, Zenith, Purepac, United Research Lab, Parke Davis, SKF, and Richlyn.

Keep in mind that the distributor is often not the manufacturer. As an example Chelsea Drug products are distributed under the Rugby label. Maryland law requires that the name of the manufacturer be put on the label so this information is available to you in small print. Distributors sometimes sell more than one manufacturer's products under their own label—a fact which you should consider when choosing a generic company from whom to buy.

When purchasing generics from your wholesaler or a national distributor it would be prudent to find out which generic manufacturer he sells and consider requesting that you receive only the products from the companies listed that have the NDA or ANDA approval. At least one local wholesaler requires that his supplier send him only approved drugs from his line.

PLEASE NOTE: This guide may be used when the prescription is written generically. It is not intended to represent products on which the Maryland Formulary permits interchange. As an example, sustained release products which have NDA are still not interchangeable without specific authorization from physician.



## THIS LETTER WAS SENT TO MANUFACTURERS OFFERING GENERIC DRUGS FOR SALE IN MARYLAND

The Maryland Pharmaceutical Association is the state-wide professional society of pharmacists. Many of our members are concerned that evidence of the quality and bioequivalence of many generic drugs is not readily available to them and, in some cases, they have not made full use of the range of products available to them for fear of using an unknown entity.

We are currently embarking on a project which will spread information to Maryland pharmacists concerning products that have received approval from the Federal Food and Drug Administration in the form of a New Drug Application or Abbreviated New Drug Application when required. The knowledge that a product has been examined by the FDA and has received an approved NDA or ANDA number is often regarded as sufficient evidence to allow use of the drug product unless more information is available.

The Association is, therefore, requesting that you provide us with the final *approved* NDA or ANDA

number for products you distribute and the name of the manufacturer if you do not produce the product. It is our intention to publish this information in the Association's monthly journal, *The Maryland Pharmacist*. Since our publication deadline is rapidly approaching, I hope you will be able to respond to our request as soon as possible to avoid being absent from our published list.

We will be listing only products which have approved NDA or ANDA numbers, not items which are considered exempt by court orders. Again, our purpose is to inform pharmacists as to which products have received FDA approval. We trust that the exposure of this information will be beneficial to both pharmacists and manufacturers.

We will be most pleased to provide you with copy of the final published list from the journal. Please contact me if you have any questions concerning this special project of the Association.

## THIS WAS THE RESPONSE — APPROVED DRUGS BY MANUFACTURER

### CHelsea LABORATORIES, INC.

aminophylline tabs  
amitriptyline tabs  
bethanechol tabs  
brompheniramine tabs, 4 mg  
butalbital w/APC tabs  
carisoprodol  
chlordiazepoxide caps  
chlorpromazine tabs  
chlorpheniramine tabs, 4 mg  
conjugated estrogens tabs  
cortisone tabs  
cyproheptadine tabs 0.75 mg  
dexamethasone tab  
dicyclomine caps  
dicyclomine tabs  
diethylpropion tabs  
dimenhydrinate tabs  
dipyridamole tabs  
diphenhydramine caps  
diphenoxylate tabs  
erythromycin stearate tabs  
folic acid tabs  
glutethimide tabs  
glycopyrrolate tabs  
hexabamate tabs  
hydralazine tabs  
hydrochlorothiazide tabs  
hydrochlorothiazide & hydralazine  
  tabs  
hydrochlorothiazide, hydralazine  
  & reserpine  
hydrochlorothiazide w/reserpine  
  tabs  
imipramine HCL  
isoniazid tabs  
isosorbide dinitrate tabs

meclizine tabs  
meprobamate tabs  
methocarbamol tabs  
niacin tabs  
nitrofurantoin tabs  
nystatin vaginal tabs  
phenidimetrazine tabs  
phenylbutazone tabs  
phentermine tabs  
phenytoin sodium tabs  
prednisone tabs  
prednisolone tabs  
probenecid tabs  
probenecid w/colchicine  
promethazine tabs  
propoxyphene caps  
propoxyphene w/APC caps  
propylthiouracil tabs  
pyrilamine maleate tabs  
quinidine sulfate tabs  
reserpine tabs  
sulfasalazine tabs  
sulfisoxazole tabs  
tetracycline caps  
tolbutamide tabs  
triamcinolone tabs  
trichlormethiazide tabs  
tripelennamine HCL tabs  
spirorolactone w/HCTZ tabs  
**CORD LABORATORIES**  
acetaminophen 325 mg w/codeine  
  tabs  
aminophylline tabs  
amitriptyline tabs  
benzthiazide tabs  
brompheniramine maleate tabs  
brompheniramine maleate elixir

chlordiazepoxide caps  
chlorpheniramine tabs 4 mg  
chlorpromazine tabs  
conjugated estrogens tabs  
dexamethasone tabs  
dextroamphetamine tabs  
diphenhydramine caps  
diphenhydramine elixir  
diphenoxylate tabs  
diphenoxylate liquid  
ergotamine tartrate w/caffeine  
esterified estrogens tabs  
glutethimide tabs  
hydralazine tabs  
hydrochlorothiazide tabs  
imipramine tabs  
isosorbide tabs  
meclizine tabs  
meprobamate tabs  
methocarbamol tabs  
niacin tabs  
phenidimetrazine tabs  
phenidimetrazine caps  
phentermine tabs  
phenylbutazone tabs  
prednisolone tabs  
prednisone tabs  
promethazine tabs  
propantheline tabs  
propoxyphene caps  
propoxyphene compound 65 caps  
quinidine tabs  
rauwolfia tabs  
reserpine tabs  
sodium butabarbital tabs  
sulfisoxazole tabs  
triamcinolone tabs

**LANNETT COMPANY, INC.**

acetazolamide tabs  
aminophylline tabs  
benzyl benzoate emulsion  
bethanechol tabs  
brompheniramine tabs 4 mg  
butabarbital tabs  
butabarbital elixir  
chlorpheniramine tabs 4 mg  
cortisone tabs  
dextro-amphetamine tabs  
dicyclomine caps  
dimenhydrinate tabs  
diphenhydramine caps  
"D" vitamin caps  
folic acid tabs  
glutethimide tabs  
hydrocortisone tabs  
isoniazid tabs  
lantrisol suspension & tabs  
lofene tabs  
meprobamate tabs  
methocarbamol tabs  
nitrofurantoin tabs  
phenytoin sodium caps  
pentobarbital caps  
piperazine syrup  
prednisolone tabs  
prednisone tabs  
primidone tabs  
probenecid tabs  
procainamide caps  
promethazine tabs  
propylthiouracil tabs  
quinidine tabs  
secobarbital caps  
reserpine tabs  
P.A.S. sodium tabs  
sulfadiazine tabs  
sulfisoxazole tabs  
theophylline elixir  
tripelennamine tabs

**LEDERLE LABORATORIES, INC.**

amitriptyline tabs  
acetaminophen w/codeine tabs  
ampicillin caps  
ampicillin suspension  
chlordiazepoxide HCL caps  
chlorothiazide tabs  
chlorpheniramine tabs 4 mg  
chlorpromazine tabs  
dexamethasone tabs  
dihydroergotoxine tabs sublingual  
dimenhydrinate tabs  
diphenhydramine caps  
diphenoxylate tabs  
erythromycin stearate tabs  
erythromycin suspension  
hydralazine tabs  
hydrochlorothiazide tabs  
imipramine tabs  
isosorbide dinitrate  
Lederacillin VC solution  
meclizine tabs  
meprobamate tabs  
methocarbamol tabs  
neomycin tabs  
nitroglycerin T.D. caps  
oxytetracycline caps  
penicillin G potassium  
phenytoin caps

prednisone tabs  
probenecid tabs  
probenecid w/colchicine  
procainamide caps  
promethazine tabs  
propantheline tabs  
propoxyphene caps  
propoxyphene AP caps  
propoxyphene comp caps  
propylthiouracil tabs  
pyrazinamide tabs  
quinidine tabs  
reserpine tabs  
spironolactone w/hydrochlorothiazide  
sulfadiazine tabs  
sulfasalazine tabs  
sulfisoxazole tabs  
tolbutamide tabs  
trisulfapyrimidines suspension  
trisulfapyrimidines tabs

**MYLAN**

amitriptyline tabs  
chlordiazepoxide caps  
chlorothiazide tabs  
cyproheptadine tabs 4 mg  
diphenoxylate tabs  
hydrochlorothiazide tabs  
methocarbamol tabs 500 mg  
probenecid tabs  
propantheline tabs  
propoxyphene caps  
propoxyphene hydrochloride caps  
propoxyphene with APAP  
sulfisoxazole tabs  
spironolactone/hydrochlorothiazide  
tolbutamide tabs, 500 mg  
ampicillin caps  
ampicillin suspension  
erythromycin stearate tabs  
penicillin G tabs  
penicillin V tabs  
penicillin V potassium solution  
tetracycline caps

**NATIONAL PHARMACEUTICAL  
MFG CO.**

tetracycline syrup  
dicyclomine syrup  
dexamethasone elixir  
diphenhydramine HCL elixir  
piperazine citrate syrup  
selenium sulfide suspension  
triple sulfa suspension  
acetaminophen w/codeine elix  
& suspension  
butabarbital sodium elixir  
diphenoxylate soln.  
promethazine syrup  
theophylline elixir  
dimenhydrinate elixir  
isoproterenol aerosol liquid  
triprolidine syrup  
cyproheptadine syrup  
lidocaine suspension

**PARKE DAVIS**

acetaminophen with codeine tabs  
amitriptyline tabs  
amoxicillin suspension  
ampicillin caps  
chloral hydrate caps  
chloramphenicol caps  
chlordiazepoxide caps  
chlorpromazine tabs

diphenhydramine HCL caps  
erythromycin stearate tabs  
hydrochlorothiazide tabs  
meprobamate tabs  
penicillin VK tabs  
phenytoin oral suspension  
propoxyphene caps  
propoxyphene APC caps  
quinidine tabs  
tetracycline caps, USP

**PREMO PHARMACEUTICAL  
LABORATORIES, INC.**

chlordiazepoxide caps  
dipyridamole tabs  
hydralazine 25 mg tabs  
imipramine 25 mg tabs  
nystatin cream  
nystatin oral tabs  
nystatin vaginal tabs  
propoxyphene compound caps  
propoxyphene HCL caps  
tolbutamide tabs  
triacet cream

**PUREPAC PHARMACEUTICAL CO.**

acetaminophen codeine phosphate  
tabs  
aminophylline tabs  
amitriptyline tabs  
ampicillin caps  
ampicillin suspension  
bacitracin ointment  
bethanechol tabs  
brompheniramine tabs 4 mg  
butabarbital tabs  
butalbital w/APC tabs  
chlordiazepoxide caps 5 mg  
chlorothiazide tabs  
chlorpheniramine tabs 4 mg  
chlorpromazine tabs  
conjugated estrogens tabs  
cortisone tabs  
dextroamphetamine tabs  
dimenhydrinate tabs  
diphenhydramine caps  
diphenoxylate tabs  
dipyridamole tabs  
doxycycline caps  
erythromycin stearate tabs  
folic acid tabs  
glutethimide tabs  
hydralazine tabs  
hydrochlorothiazide tabs  
hydrochlorothiazide w/reserpine tabs  
hydrocortisone tabs  
hydrocortisone cream  
hydrogenated ergot alkaloids  
tabs, sublingual  
imipramine tabs  
isoniazid tabs  
isosorbide dinitrate tabs  
meclizine tabs  
meprobamate tabs  
methocarbamol tab  
methyltestosterone tabs  
nitrofurantoin tabs  
niacin tabs 500 mg  
oxytetracycline HCL caps  
penicillin G tabs  
penicillin G suspension  
penicillin V tabs, suspension  
pentaerythritol tabs  
pentobarbital caps

prednisone tabs  
 prednisolone tabs  
 probenecid and colchicine tabs  
 procainamide caps  
 promethazine tabs  
 propantheline tabs  
 propoxyphene caps  
 propoxyphene w/acetaminophen tabs  
 propoxyphene w/APC caps 65 mg  
 propylthiouracil tabs  
 quinidine tabs  
 rauwolfia tabs  
 reserpine tabs  
 secobarbital caps  
 spironolactone tabs  
 spironolactone with  
   hydrochlorothiazide  
 sulfamethoxazole tabs  
 tetracycline caps  
 tetracycline oral suspension  
 theophylline elixir  
 tolbutamide tabs  
 triamcinolone tabs

#### **RICHLYN LABORATORIES, INC.**

aminophylline tabs  
 chlordiazepoxide HCL caps  
 chloroquine phosphate tabs  
 chlorpheniramine maleate 4 mg tabs  
 cortisone acetate tabs  
 dexamethasone tabs  
 dimenhydrinate 50 mg caps  
 diphenhydramine caps  
 folic acid 1 mg tabs  
 hydralazine HCL tabs  
 hydrochlorothiazide tabs  
 hydrocortisone 20 mg tabs  
 isoniazid tabs  
 meclizine HCL tabs  
 meprobamate tabs  
 methocarbamol tabs  
 methyltestosterone tabs  
 niacin tabs  
 oxytetracycline HCL caps  
 piperazine citrate tabs  
 prednisolone tabs  
 prednisone tabs  
 probenecid & colchicine tabs  
 promethazine HCL tabs  
 propantheline tabs  
 propoxyphene 65 mg caps  
 propoxyphene 65 mg w/APC  
 propylthiouracil 50 mg tabs  
 pyrilamine maleate 25 mg tabs  
 quinidine sulfate tabs  
 rauwolfia serpentina tabs  
 reserpine tabs  
 sulfadiazine tabs  
 sulfa-triple tabs  
 sulfisoxazole tabs  
 tetracycline caps  
 thyroglobulin tabs  
 triamcinolone tabs  
 trichlormethiazide tabs  
 tripeleennamine HCL 50 mg tabs  
 vitamin A caps

#### **SMITH, KLINE & FRENCH**

amitriptyline tabs  
 ampicillin caps  
 acetaminophen, codeine phosphate  
 meprobamate tabs  
 chlorothiazide tabs

## **The Board of Pharmacy Says Maryland Law Requires FDA Approval**

Dear Dave:

Concern has been expressed to the Board of Pharmacy about the use of generic drugs that do not possess a valid NDA or ANDA. Under Article 43, Section 189 D of Maryland Law, it states that any new drugs not covered under federal law may not be sold in Maryland.

In the opinion of the Attorney General, interpretation of this law in Maryland would mean that it is illegal to sell any drug that does not contain an NDA or ANDA.

We would strongly suggest that Maryland pharmacists assure themselves that the drugs they dispense are in full compliance with both Maryland and Federal Law.

Sincerely,

Paul Freiman  
 Secretary

dexamethasone tabs  
 diphenhydramine, caps & elixir  
 diphenoxylate and atropine sulfate tabs  
 erythromycin stearate tabs  
 hydrochlorothiazide tabs  
 chlordiazepoxide caps  
 penicillin G tabs  
 penicillin V tabs  
 imipramine tabs  
 prednisone tabs  
 quinidine tabs  
 reserpine tabs  
 propoxyphene HCL caps  
 propoxyphene HCL, acetaminophen tabs  
 propoxyphene HCL, APC caps  
 sulfisoxazole tabs  
 tetracycline caps  
 tolbutamide tabs  
 triamcinolone tabs

#### **UNITED RESEARCH LABORATORIES, INC.**

APAP w/codeine tabs  
 acetazolamide 250 mg tabs  
 aminophylline tabs  
 ampicillin caps  
 amitriptyline tabs  
 bethanecol chloride tabs  
 butabarbital sodium tabs  
 carisoprodol 350 mg tabs  
 carisoprodol compound tabs  
 chlordiazepoxide HCL caps  
 chlorothiazide tabs  
 erythromycin estolate caps  
 dimenhydrinate tabs  
 chlorothiazide/reserpine tabs  
 chlorpheniramine tabs  
 chlorpromazine tabs  
 col-probenecid tabs  
 conjugated estrogen tabs  
 corticotropin injection  
 cortisone 25 mg tabs & injection  
 cyanocobalamin inj 1000 mcg/ml  
 cyproheptadine tabs  
 dexamethasone tabs  
 dicyclomine tabs, caps  
 diphenhydramine caps, liq, inj.  
 erythromycin  
 estradiol valerate inj.  
 estrone aqueous inj.

folic acid tabs  
 butalbital w/APC tabs  
 glutethimide tabs  
 hydralazine tabs  
 hydrochlorothiazide tabs  
 hydrochlorothiazide/reserpine tabs  
 hydrocortisone acetate susp  
 imipramine tabs  
 isoniazid tabs  
 sororbid tabs  
 iron dextran tabs  
 meclizine tabs  
 meprobamate tabs  
 methocarbamol tabs  
 methylprednisolone acetate tabs & liq. j.  
 methyltestosterone tabs  
 penicillin V tabs  
 penicillin G tabs  
 Petn 10 mg tabs  
 phendimetrazine tabs  
 phenytoin sodium caps  
 prednisolone acetate tabs  
 prednisone tabs  
 primidone tabs  
 probenecid tabs  
 procainamide caps  
 procaine HCL inj.  
 prochlorperazine tabs  
 progesterone in oil inj.  
 promethazine HCL tabs  
 propoxyphene HCL caps  
 propoxyphene HCL w/APC caps  
 propoxyphene HCL w/APAP tabs  
 propylthiouracil tabs  
 quinidine sulf. tabs  
 rauwolfia serp tabs  
 reserpine tabs  
 spironolactone  
 spironolactone/hydrochlorothiazide tabs  
 stilbestrol tabs  
 sulfadiazine 0.5 tabs  
 sulfamethoxazole tabs  
 sulfasalazine  
 testosterone propionate tabs  
 tetracycline caps  
 theophylline elixir  
 thiamine HCL inj.  
 tolbutamide tabs  
 trichlormethiazide tabs  
 triamcinolone acetamide cream



triamcinolone 4 mg tabs  
 trihexphenidyl HCL tabs  
 tripeleonnamine tabs  
 triple-sulfa 2 tabs  
 tridihexethyl 25 w/meprobamate tabs

#### **ZENITH LABORATORIES, INC.**

acetaminophen w/codeine tabs  
 APC w/butalbital tabs  
 CDP caps  
 chlorpromazine tabs  
 chlorthalidone tabs  
 conjugated estrogens tabs  
 cyproheptadine tabs  
 diphenhydramine caps  
 diphenoxylate tabs  
 dipyridamole tabs  
 hydralazine tabs  
 hydrochlorothiazide tabs  
 hydroserpine plus tabs  
 hydroserpine tabs

isosorbide tabs  
 meclizine tabs  
 meprobamate tabs  
 methocarbamol tabs  
 PETN tabs  
 phentermine caps  
 phenytoin caps  
 prednisolone tabs  
 prednisone tabs  
 probenecid w/colchicine tabs  
 procainamide caps  
 propoxyphene compound caps  
 propoxyphene caps  
 propylthiouracil tabs  
 quinidine tabs  
 rauwolfia tabs  
 reserpine tabs  
 spironolactone tabs  
 sulfisoxazole  
 TCM tabs  
 tolbutamide tabs

If you have any questions about the status of a drug, call the FDA at (301) 433-1016.

Special thank you to Melvin Rubin and Dr. Ralph Shangraw for their help on the survey —

*The Editor*

## **FDA Lists Those Drugs that are Not Approved**

The following is a current listing of certain widely prescribed drug products without approved New Drug Applications (NDAs). Some of the drugs are marketed under various distributor labels, with or without the name of the manufacturer on the label. The FDA considers the products listed below to violate the new drug provisions of the Food, Drug, and Cosmetic Act, whether or not they are marketed under distributor labels. Please note that this list is valid as of June 16, 1980, however, it is subject to change by the marketing of a new unapproved generic or by approval of any of the listed drugs. We will keep you informed of such changes.

### **Product**

#### **Allopurinol Tablets**

Premo Laboratories, Inc.  
 South Hackensack, NJ (Premo)  
 Pharmadyne Laboratories, Inc.  
 Elmwood Park, NJ (Pharmadyne)

#### **Betamethasone Valerate Cream**

Premo  
 Clay Park Laboratories, Inc.  
 Bronx, NY (Clay Park)

#### **Chlorthalidone Tablets (25 and 50 mg only)**

Premo  
 Pharmadyne  
 Zenith Laboratories, Inc.  
 Northvale, NJ

#### **Chlorothiazide Tablets (500 mg only)**

Camall Company  
 Detroit, MI

#### **Chlorothiazide with Reserpine Tablets**

Pharmadyne

#### **Chlorpropamide Tablets**

Pharmadyne  
 Chelsea Laboratories, Inc.  
 Inwood, NY

#### **Diethylpropion Hydrochloride Tablets**

Pharmadyne  
 Premo

#### **Doxylamine Succinate with Pyridoxine Hydrochloride Tablets**

Premo  
 Pharmadyne

#### **Dihydroergocornine Mesylate with Dihydroergocristine Mesylate**

#### **Dihydroergokryptine Mesylate Tablets**

Premo

#### **Furosemide Tablets**

Pharmadyne  
 Superpharm Corporation  
 Central Islip, NY

#### **Hydroxyzine Hydrochloride Tablets**

Premo  
 Pharmadyne

#### **Hydroxyzine Pamoate Capsules**

Premo

#### **Prochlorperazine Capsules**

Pharmadyne

#### **Reserpine with Hydralazine Hydrochloride and Hydroxyzine Tablets**

Premo

#### **Spironolactone Tablets**

Premo  
 Pharmadyne

#### **Spironolactone with Hydrochlorothiazide Tablets**

Premo  
 Pharmadyne

#### **Triamterene with Hydrochlorothiazide Capsules**

Premo  
 Pharmadyne

#### **Trifluoperazine Hydrochloride Tablets**

Premo

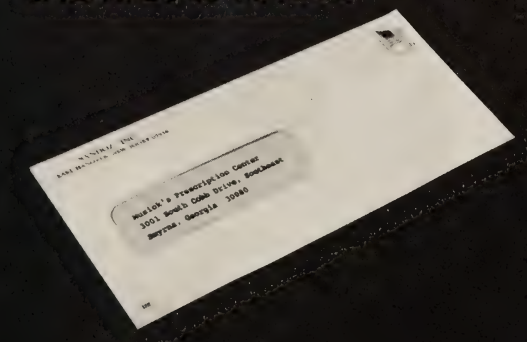
#### **Trimethoprim with Sulfamethoxazole Tablets**

Pharmadyne

We have not included Premo's Insulase\* (brand of chlorpropamide) in the list because the United States District Court for the Southern District of New York has stated that it is not a new drug and, therefore, does not require premarket approval. The Food and Drug Administration maintains that it is an unapproved new drug however, and has appealed this decision to the U.S. Court of Appeals for the Second Circuit. In the interim, we cannot object to the continued marketing of Insulase\*.

Sandoz doesn't keep you  
in the dark on price  
and product changes.

Because we think  
you should be among  
the first to know.



You've often expressed the need to be kept informed of planned price and product changes... so you could plan ahead. We think that's good business. That's why we make it a practice to give you advance notification of new price structures. New product forms and strengths. New packaging options. By listening to your comments and suggestions, we've provided many service innovations that are second to none. A superior returned-goods policy. More convenient packaging. Simplified dating and improved labeling of products. Product and service information binders.

We're convinced your opinion counts.

**Sandoz listens...**  
**to serve you better.**



## **Together, you and B.W. Co.<sup>®</sup> can help educate future pharmacists**

Each year, B.W. Co. sponsors a scholarship fund program. And for good reason. We believe that the future of pharmacy begins with the education pharmacy students receive.

## **The 7th annual B.W. Co.<sup>®</sup> pharmacy education program**

### **We have a \$500,000 commitment to pharmacy**

By year's end, B.W. Co. will bring its commitment to pharmacy education up to \$559,000. Our present goal is to distribute this year's \$117,000 in awards. And we need your help and recommendations.

**Plus, a commitment to continue producing fine  
quality products you can recommend.**

- Sudafed<sup>®</sup> Tablets/Syrup
- Polysporin<sup>®</sup> Ointment
- Sudafed<sup>®</sup> Plus Tablets/Syrup
- Empirin<sup>®</sup> Analgesic Tablets
- Neosporin<sup>®</sup> Ointment



**Burroughs Wellcome Co.**  
Research Triangle Park  
North Carolina 27709



# Good pharmacists aren't born, they're educated.

## Win a \$750 grant for your favorite pharmacy school

Three registered pharmacists from each state, plus DC and Puerto Rico, will have the opportunity to present, *in their own names*, a \$750 education grant to the pharmacy colleges of their choice.

**Drawings to be held at the N.A.R.D. Convention**

**Convention dates:** September 28 — October 2, 1980

**Location:** Atlanta, Georgia

You need not be present in order to win.

**Winners will be publicly announced**



## Additional benefits for pharmacy from B.W. Co.

- Product liability protection policy.
- Liberal "Returned Goods" policy.
- Wellcome Trends in Pharmacy, a news periodical of important professional developments.
- The Silas M. Burroughs Memorial Fellowship and The Henry S. Wellcome Memorial Fellowship, granted for graduate research in pharmacy.
- Summer employment for selected undergraduate pharmacy students at our production facilities in Greenville, North Carolina.

Everyone who enters by September 14th will receive an attractive pharmacy tile plaque — a gift with a 300-year history.

**Watch your mail for  
entry blanks**





# Resolutions Adopted at the 1980 Annual MPhA Convention

## RESOLUTIONS NUMBER 1

WHEREAS, the Maryland Pharmaceutical Association and the American Pharmaceutical Association have a joint heritage of close cooperation and

WHEREAS, in evidence of this, the Maryland Pharmaceutical Association and American Pharmaceutical Association had entered upon an agreement of affiliation which stood in effect until it was recently dissolved, and

WHEREAS, the Maryland Pharmaceutical Association wishes to retain and build on this traditional relationship to the benefit of the members of both the State and National Association;

THEREFORE BE IT RESOLVED THAT, after careful consideration of the "Statement of the APhA Board of Trustees on Affiliation," that the Maryland Pharmaceutical Association petition the American Pharmaceutical Association for status as an "Affiliated" state under the terms of the statement.

### Statement of the APhA Board of Trustees on Affiliation

The APhA Board of Trustees, for the past several months, has engaged in an extensive study of organizational affiliation between various pharmacy organizations and APhA. Such affiliation relationships are provided for in Article XIII of the APhA Bylaws, which states, in pertinent part, that any "recognized organization" within the meaning of the APhA Bylaws may petition the APhA Board of Trustees for affiliated organization status. The Bylaws also state that, if its petition is granted, the recognized organization and APhA still execute an agreement setting forth the elements of the affiliation relationship.

Until approximately two years ago, a major element of the affiliation relationship was a reciprocal membership arrangement under which pharmacists wishing to join either APhA or the affiliated organization also were generally required to apply concurrently for membership in the other organization. This aspect of affiliation was effectively terminated approximately two years ago, first through an APhA-initiated moratorium and subsequently through Board of Trustees action, ending reciprocal membership as an affiliation relationship element with any organization.

The underlying rationale of affiliation always has been the goal of creating an organizational structure for American pharmacy in which all pharmacists would be eligible and encouraged to participate actively in the organizational life of their profession at the national, state, and local levels. APhA's goal, in other words, has been to create a nationwide professional democracy in which the voices of all pharmacists would be welcomed and heard in establishing the goals and policies of the profession. Through increased organizational efficiency, those goals and policies might be pursued with greatest effect and greatest economy.

The APhA Board of Trustees believes that the perceived benefits of affiliation are as valid today as when the affiliation concept was first proposed in the early 1950s. Consequently, the task the Board of Trustees has addressed over the past several months has been to identify the most desirable basis upon which the affiliation concept can continue into and through the decade of the 1980s. This statement sets forth the conclusions reached and the criteria which will be utilized by the APhA Board of Trustees in acting upon future recognized organization petitions for affiliated organization status. It also expressed the inten-

tions of the Board of Trustees with regard to the programs and services which APhA will continue to make available to affiliated organizations.

Any "recognized" organization petitioning for "affiliated" organization status will be evaluated by the APhA Board of Trustees against only two criteria:

1. **Membership and active participation in the petitioning organization must be open to any pharmacist who meets the reasonably established and fairly administered objective standards for membership in the organization.** For a recognized state organization, membership and full participation in the organization, at a minimum, must be open to any pharmacist residing in that state. For a recognized national organization, membership and full participation must be open to any pharmacist meeting the membership standards of the organization; moreover, such standards shall be objective and shall not be established for the purpose of excluding particular pharmacists or groups of pharmacists who are otherwise qualified.
2. **The recognized organization must commit itself to appoint to the APhA House of Delegates that number of delegates which the organization would be entitled to appoint annually as an affiliated organization.** Thus, the petitioning recognized organization must have sufficient strength to be able to fulfill its responsibilities to its members insofar as those responsibilities entail participation in the APhA House of Delegates as an affiliated organization. In the case of state organizations, the APhA Board of Trustees intends to grant affiliated organization status to only one recognized organization which purports to represent the pharmacists in any given state.

Organizations which become affiliated with APhA by accepting responsibility for organizational democracy and for appointment of delegates to the APhA House of Delegates will be offered these direct benefits by APhA:

1. **APhA will offer from time to time specific programs and services designed to enhance the administrative operations and professional programs of affiliated organizations.** Participation in such programs or services generally will be at the option of the affiliated organization, and each will be the subject of a specific agreement between the affiliated organization and APhA regarding the terms and conditions of each program or service.
2. **Programs and services made available by APhA to affiliated organizations will be offered on a basis which will help affiliated organizations conserve their financial resources.** Whenever possible, such programs and services shall be made available to affiliated organizations at a maximum charge equivalent to APhA's cost.

In summary, the APhA Board of Trustees intends to pursue the concept of affiliation by minimizing its requirements and by maximizing its benefits, taking into account the available resources of both affiliated organizations and APhA, and also taking into account the various legal requirements that may be applicable to the affiliation concept and relationship. With these principles established, the Board of Trustees believes that the concept of affiliation and its fulfillment can move forward into a new era and can serve the profession well for many years to come.

Approved by the APhA Board of Trustees on April 11, 1980



## RESOLUTION NUMBER 2

*WHEREAS*, The professional designation Registered Pharmacist (R.Ph.) has been used by the profession of Pharmacy to identify a pharmacist to the public, peers and other health care professionals and *WHEREAS*, there has been confusion and controversy over the appropriateness of this designation and *WHEREAS*, colleges of Pharmacy are now issuing two practicing degrees (the B.S. and Pharm.D.) to individuals who are licensed under the Board of Pharmacy. *THEREFORE BE IT RESOLVED* that the Maryland Pharmaceutical Association appoint an Ad Hoc Committee to study the issues of professional designation, including alternatives such as the designation P.D. and *BE IT FURTHER RESOLVED* that this Committee report back to the House of Delegates with a recommendation regarding the professional designation for Maryland Pharmacists.

## RESOLUTION NUMBER 3

*WHEREAS*, the primary objectives of the Maryland Pharmaceutical Association and the Maryland Society of Hospital Pharmacists are equivalent; their purpose being to promote patient health and safety, to perfect and enlarge professional knowledge, and to work for the betterment of the profession of Pharmacy, and *WHEREAS*, in many cases the memberships of the Association and Society overlap and each organization provides membership services which duplicate the efforts of the other, and *WHEREAS*, the Student American Pharmaceutical Association Chapter of the University of Maryland School of Pharmacy has requested that the Association and Society find ways to encourage cooperation between the two in order to enhance participation by students in each. *THEREFORE BE IT RESOLVED* that the Maryland Pharmaceutical Association and the Maryland Society of Hospital Pharmacists seek ways to cooperate and combine efforts compatible with the mutual objectives of each organization; particularly in the areas of conventions and publications.

## RESOLUTION NUMBER 4

*WHEREAS*, some parenteral drugs particularly those used in the treatment of cancer, can cause serious adverse physical side effects if used incorrectly, and *WHEREAS*, accidents in the handling of drugs contained within fluid vehicles are not infrequent, and *WHEREAS*, there is a scarcity of easily accessible information to the pharmacist on the effects of and remedies for the inadvertent contact with these kinds of drugs. *THEREFORE BE IT RESOLVED* that the Maryland Pharmaceutical Association encourages appropriate manufacturers to provide pharmacists information on the effects and treatment of inadvertent contact of parenteral drugs on the eyes, mucous membranes and skin.

## RESOLUTION NUMBER 5

*WHEREAS*, the United States Pharmacopeial Convention has assessed the need for appropriate information to be provided to the Pharmacist for use in patient counseling, and *WHEREAS*, the USP has developed the Dispensing Information publication as a readily useable source for this valuable information, and *WHEREAS*, the widespread use of the Dispensing Information publication is preferable to the Food and Drug Ad-

ministration's Patient Package Insert proposal. *THEREFORE BE IT RESOLVED* that the Maryland Pharmaceutical Association commends the United States Pharmacopeial Convention for its initiative in developing the outstanding Dispensing Information publication. *BE IT FURTHER RESOLVED* that the Maryland Pharmaceutical Association recommends the USP-DI serve as a primary source for drug dispensing information in Maryland.

## RESOLUTION NUMBER 6

*WHEREAS* the 98th meeting of the Maryland Pharmaceutical Association at the Carousel Hotel in Ocean City Maryland has proven to be an outstanding convention in all aspects, and *WHEREAS*, recognition for the work that has made this convention possible is appropriate, *THEREFORE BE IT RESOLVED* that the Maryland Pharmaceutical Association in convention here assembled hereby commends the work of Convention Committee Chairman Elwin Alpern, and the members of the Convention Planning Committee.

## RESOLUTION NUMBER 7

*BE IT RESOLVED* THAT the Maryland Pharmaceutical Association and the Legislative Committee work for the successful passage of Congressional Bill HR 6895 or a Bill similar in its purpose so that Association members and non-members might join together in bargaining for third party fees.

## RESOLUTION NUMBER 8

*WHEREAS* the management of radio stations, W.C.A.O. and W.X.Y.V. in Baltimore, Maryland, have been most generous in giving the Maryland Pharmaceutical Association, public service time so that our "Your Best Neighbor" radio program could be presented, to our radio friends every week during the past twenty one years. *WHEREAS* the Officers, Trustees, and Members of the Maryland Pharmaceutical Association are deeply thankful for this kindness extended to them, therefore be it *RESOLVED* that our Executive Director David Banta, be requested to send Mr. Joseph Cahill, manager of radio stations W.C.A.O. and W.X.Y.V., a letter expressing our deep appreciation and sincere thanks for his courtesy and cooperation during the past year.

## RESOLUTION NUMBER 9

*WHEREAS*, the importance and scope of so-called third party plans is and will continue to be of vast importance to all pharmacy practitioners in the state of Maryland, and *WHEREAS*, the sensitivity and magnitude of the issues involved requires great and extensive thought, resolve and determination upon the part of those involved with the Maryland Pharmaceutical Association's position and respect thereto, *THEREFORE BE IT RESOLVED*, that the membership of the Third Party Committee of the Maryland Pharmaceutical Association be expanded and the Chairperson of said Committee be, and is hereby urged to select one person from each affiliated local pharmacy group throughout the State for membership on said Committee, and *BE IT FURTHER RESOLVED*, that the functions and responsibilities of said Third Party Committee be enlarged and elaborated upon and specifically defined to the end we all desire — adequate compensation for services rendered.



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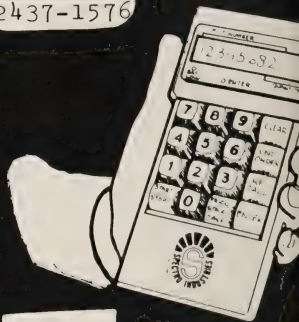
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# Tripartite Committee Reports to Convention

The Chairmanship of the TriPartite committee revolved to the Maryland Pharmaceutical Association this year and I was honored to be chosen chairman since personal problems precluded Irv Kamenetz from accepting the position.

The meetings which have been held this year have in part focused on specific problems which affect each of the three sectors represented: Coordination of the PEP program to insure that the Board, the profession, and the school are all aware of each others feelings toward the program; and the status of technical personnel in pharmacy.

Other topics discussed have been licensing of foreign graduates, inspections of non-pharmacy establishments for OTC drugs, means for pharmacists to assure quality and equivalence of generics, and legislation which affected pharmacy.

The TriPartite committee is not a policy making group and no decisions evolve directly from discussions. However, the points brought out in discussions should be reported in detail to the represented groups and policy decisions affecting these areas made by MPhA, Board of Pharmacy, and School of Pharmacy should be brought back to the TriPartite committee.

To help accomplish this exchange of information I am asking that TriPartite minutes be sent to each member of the Board of the Maryland Pharmaceutical Association and the President of each local affiliate, and hope the other represented groups will disseminate this information also.

## The Maryland TriPartite Pharmacy Committee

### STATEMENT OF PURPOSE

The Maryland TriPartite Pharmacy Committee is composed of representatives of three sectors of Pharmacy in Maryland — Education (University of Maryland School of Pharmacy), regulatory agency (Maryland Board of Pharmacy) and the profession (Maryland Pharmaceutical Association and the Maryland Society of Hospital Pharmacists).

The Committee serves as a coordinating council for Pharmacy in Maryland. Each member organization is expected (and should feel compelled) to present policy decision, proposed legislation and other prospects affecting or impinging upon the practice of Pharmacy to the body in an effort to elicit input and/or generate support from the member organization. As such, the committee serves as a clearing house for ideas and programs and as a resource to pharmacy, other health professions, and to society in general.

Each member organization retains its autonomy and its right to act as its responsibilities demand. The overriding responsibility of each member to the others is to keep them aware and informed, in keeping with the best interest of the profession of Pharmacy and the public it serves.

*Pictures courtesy of  
Paramount Photo Service.  
Official convention photographer  
was Abe Bloom.*



The chairmanship of the Tripartite Committee rotates between the member organizations. This year's Chairman, Melvin Rubin from the MPhA, delivered the report of the Committee to the Annual Convention.

## Public Relations Committee Notes Image Victories

by

Chairman Charles Spiglemire

Mr. President, Members of the Maryland Pharmaceutical Association, Guests. If we are to survive as a profession in this day of attack from all sides, we must unite all parts of our profession. Retail pharmacists must recognize the fact that they can expect no help from any source than themselves. Retail pharmacists must also realize that the wishes of the public must be recognized.

During the past year the work, the aims, and the projects of your Public Relations Committee have been many and varied. It had to do with many and different types of people, with ever changing thoughts and ideals. We learned that when dealing with people, it was well to remember we were not dealing with creatures of logic. We were dealing with creatures of emotion, creatures bustling with prejudices, and motivated by pride and vanity. Your public Relations Committee firmly believes that many of the ills which have beset pharmacy in the past and which continue to belabor it in the present have been brought about by a lack of understanding and a lack of efficient and intelligent publicity. We felt our problem was one of education rather than alibis.

We realized full well that independent pharmacy was facing the sternest kind of vigorous competition from all sides and sources. All of us know there are many different ways of facing competition but there is only one way to beat it, that is to induce the general public to give the independent pharmacist more of their drug dollars than anyone else. With these thoughts in mind, we used every word, every phrase and every thought at our command to continuously tell the public that the independent pharmacist was truly their friend and best neighbor.

Sunday after Sunday during the past year at 6 a.m. our association had the benefit of a fifteen minute radio program over radio station WCAO 600 on your dial, and WXYV 103 on your FM dial. While this broadcast emanates in



Baltimore it is intended for the entire state of Maryland, and is dedicated to you the public's best neighbor. On these programs we try to discuss and explain every phase, and every facet, and every problem of pharmacy.

One of the most interesting, human interest programs we did was one on alcoholism. We explained that alcoholism is a serious disease and requires special treatment. We told of the serious drug interactions involving alcohol that could be fatal. We outlined the various types of treatment. We told the alcoholic that all the drugs needed in the treatment of his problem could be obtained from the community pharmacy.

Pharmacy week presented a splendid opportunity for your public relations committee to tell the public that this was a special week for the pharmacist, a week in which they could stop in his store and tell him how grateful they were to have him as their best neighbor. The young people of today are the V.D. victims of tomorrow, but they need but be. The solution lies in young hands, the hands of parents, teachers, youth leaders and every responsible citizen, we explained all this on our program V.D. the silent scourge. Once again during the past year, your best neighbors did their very best to distribute pamphlets in your stores that told the vicious story of V.D. and how it could be controlled and cured.

During heart month we conducted a program which described the many drugs and remedies employed today in the treatment of various heart ailments. We explained the new and sophisticated heart medicines which made it so much easier for the chronic heart patient. This program was highlighted with the important advice that all of these remedies could be obtained on prescription only, from your best neighbor, the friendly Pharmacist. There is no disease any sadder or more pitiful than mental illness, because it not only effects the victim, but also their families and friends. During mental health week we devoted a program that acquainted the public with the new drugs and products which bring relief and help to the mentally ill. We let all of your customers know that all products for the mentally ill could be obtained from their friendly community pharmacist. We all know there is no ache any more annoying than a tooth ache. In an effort to create a finer and closer relationship between pharmacy and dentistry, we presented a program during dental hygiene week which did much to inform the public that the pharmacist was their best friend for dental hygiene and advice between visits to their dentist. We also told the public the best place to obtain dental care needs was from you their best neighbor. Have you ever heard the heart rending scream of a small child that has just ingested a hand full of household LYE? If you have, I know its something you will never forget. Our program during Poison Prevention Week, tried hard to tell the public how important it was to have respect, for the many poisonous substances found around the home, we emphasized the fact how important it was, to read the labels on all products, how essential it was to keep medicines out of the reach of small children, we continuously told your customers, that children act quickly and so do poisons. Once again your best neighbor gave your association splendid cooperation by distributing the little red poison telephone sticker, which told the customer where to call if accidental poisoning struck their homes. We also told your customers that Aspirin was the greatest killer of all, and that it was the only drug, when taken in lethal doses, for which there is no known antidote. When you feel hurt you hurt all over. During National Foot Health Week, Dr. David Reicher, a well known Baltimore podiatrist, told your customers that this was a fact. On our radio program he discussed foot ailments and their treatment. He stated the community pharmacy was headquarters for remedies, for minor foot ailments. This is just another way of telling the public their BEST NEIGHBOR is headquarters for foot remedies.

## MPhA Convention



During Diabetes Week our program told the public that their best protection was early detection. We explained proper medical diagnosis was essential to relief and control. The importance of correct diet was told many times. The newer drugs and methods of treatment supplied by the pharmacist were advised. Above all our program says, that you the scientist on the corner was fully qualified to give advise, discuss medications, and evaluate diet for diabetic sufferers.

During the past year your committee, gave much assistance and advice on the Elder Ed program which is, a pharmacy education and drug training program. Using pharmacy students and retired pharmacists to deliver consumerized education to older persons. This program is directed by Dr. Peter Lamy and Mrs. Madeline Feinberg of the school of pharmacy. Your committee made frequent appearances in senior citizen centers, homes and organizations, in a sincere effort, to tell these older people how important the pharmacist is in compounding their prescriptions, advising them on the current medications, and assisting them with their many and varied ailments. We felt that senior citizen education isn't an extra service to be provided when time, mood and personal allow. We Felt Senior Citizen education was an obligation.

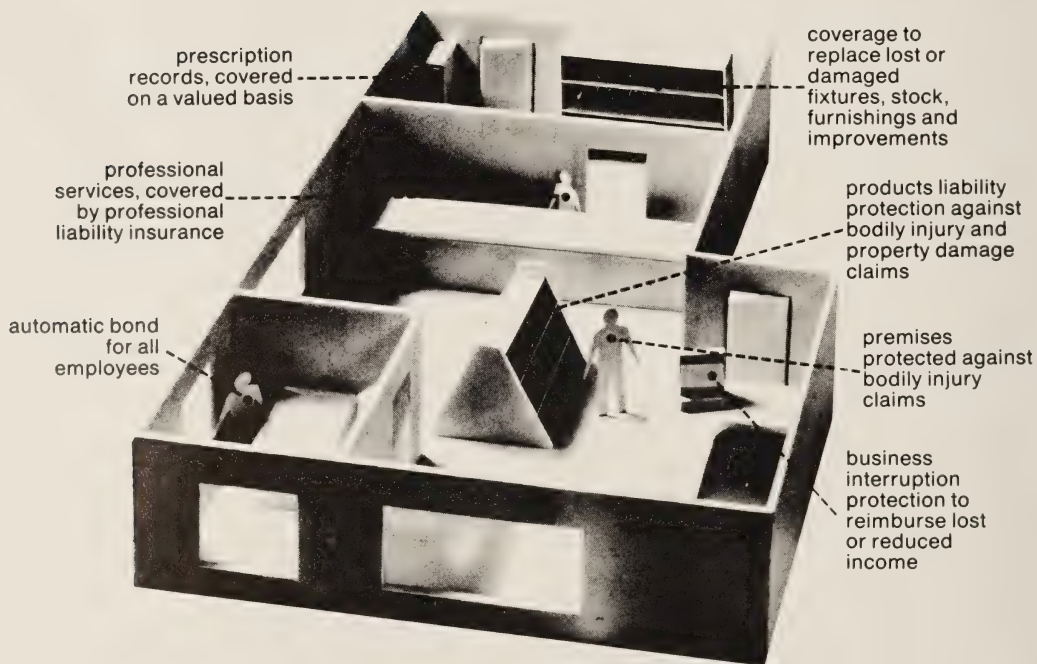
For their cooperation, advice and assistance, I would like to thank Mr. Joseph Cahill, Manager of station WCAO and Miss Ellen Beth Leavitt, Public Service Director of WCAO. I am extremely appreciative and thankful for the magnificent cooperation and advice accorded me by our Executive Director Mr. David Banta. I want to sincerely thank Mrs. Sharon Spies and Mrs. Mary Ann Frank for the help and assistance they extended me during the past year. You and I are in Pharmacy up to our neck, that is the same place a rope can hang you. We cannot just wait for the sheriff to cut the rope and tell the people, they need us and that we "DESERVE PUBLIC APPROVAL AND CONFIDENCE." We must prove our own case and quickly REMEMBER—HE THAT PLANTS THORNS MUST NEVER EXPECT TO GATHER ROSES.

## calendar

- Sept. 21 — CECC Program sponsored by SKF/Spectro Inc., "Communipharm" — College Park
- Sept. 28 — NARD 82nd Annual Convention, Atlanta, Georgia
- Oct. 16 — CECC Program — "Hyperalimentation", Kelly Building
- Oct. 18 — Alumni Association — Oyster Roast
- Oct. 23 — MPhA FALL REGIONAL MEETING
- Nov. 1 — CECC Program — Henry Seidman Mem. Lecture — "Cardiovascular Disease"
- Nov. 9 — MPhA DINNER THEATRE — BURN BRAE — "MAME" — contact C. Spigelmire 467-0948. MAKE RESERVATIONS AS SOON AS POSSIBLE

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## Centennial Committee Report

The MPhA will observe the 100th Anniversary of its founding in 1982, and to celebrate this event your President has appointed the Centennial Committee. After two full committee meetings and several meetings with specific individuals, the following plans and assignments have been made.

First, the Board of Trustees authorized the expenditure of \$500.00 for committee planning expenses such as making dies for special commemoratives.

Second, the committee obtained facts concerning similar observances in other states, some from the past and some in the planning stage.

Third, it was decided to adopt a "logo" with an appropriate slogan to be used in promoting the event. On this project, Mageline Feinberg and David Banta will refine the committees selections.

Mr. William Skinner has been in contact with American Institute on the History of Pharmacy and will prepare articles for use in our publication, the *Maryland Pharmacist*.

AIHP will provide some background history which we will use during 1981 for pre-centennial awareness. It is hoped that we will find a location within the state for the placement of a plaque to be awarded in public ceremonies during 1982.

Bennie Owens has identified suitable objects to be used as commemorative memorabilia to be sold or given away for this occasion. Such things as mugs, plates, medals, bumper stickers, decals and tee shirts have been suggested and the committee will soon decide on appropriate items. These may be sold in pharmacies or through the Association office to help defray the costs.

Ronald Lubman will contact the Mayor and the Governor to make suitable proclamations. Ron will also check with the Department of Tourism to plan special events.

Phil Cogan will work with the schools in planning essays, posters, or other projects to involve the youth groups. Prizes may be awarded for best in project.

Some firms offer special assistance by supplying PR films, speakers, and other assistance to state associations. Parker will contact several firms to obtain information and materials. Banta will contact major suppliers for displays or exhibits to be used at state and local fairs and the convention; also to obtain aids for the Centennial issue of the *Maryland Pharmacist*.

Plans were also initiated to provide for programs throughout the year to tie in with any historical event, or in conjunction with other allied health professions. Also helping in the planning is Steve Provenza, who will do some research into Maryland Pharmacy.

The Committee wishes to thank the Executive Secretary and his staff for all the continuing assistance and guidance provided.

## Industry Relations Committee Report

The Industry Relations Committee of the Maryland Pharmaceutical Association continued its tradition of being one of the most active of all of the Association committees. The past year has seen the follow-up and continuation of a number of the valuable projects we have been working on in the past. A number of these projects include:

1. **Ombudsman activity.** Whenever a member contacts the Committee with a specific request for assistance regarding a manufacturer, the Committee acts as an ombudsman in resolving the conflict to everyone's satisfaction. Letters to manufacturers in reference to outdated and unsaleable merchandise held by retail pharmacies has shown good results in getting these products off of the shelves and credit issued to the pharmacist.



Centennial Committee Chairman Richard Parker, Sr.

2. **Employment Alternatives Seminar.** Working with the School of Pharmacy and the SAPHa chapter there, the Industry Relations Committee helped present a seminar on "Alternative Careers in Government and Industry" which was given at the National SAPHa meeting held in conjunction with the APPha meeting in Washington, D.C. Special appreciation goes to Bill Brown and Donald Fedder for their work on this project.
3. **Day in the Pharmacy Project.** Jerry Block and his subcommittee have given much effort and preparation into the training of new pharmaceutical Representatives in the day to day working and problems in retail pharmacies. We have received many letters of inquiry and praise from those who have had contact with the program.
4. **NDA, ANDA project.** The Committee had recommended to the Board of Trustees and the Legislative Committee that legislation be considered which would require that manufacturers who offer drugs for sale in Maryland must have an NDA or ANDA when required by the FDA. Ralph Shangraw and Mel Rubin are collecting lists of NDA's and ANDA's from various manufacturers and these will be published in an upcoming issue of the *Maryland Pharmacist* for the benefit of members.



Industry Relations Committee Chairman Mark Golibart.



# Honorary President Victor



MPHA Past President Ronald Lubman presents the Honorary President's Award to Victor Morgenroth who then called upon the young pharmacists present to "be themselves."

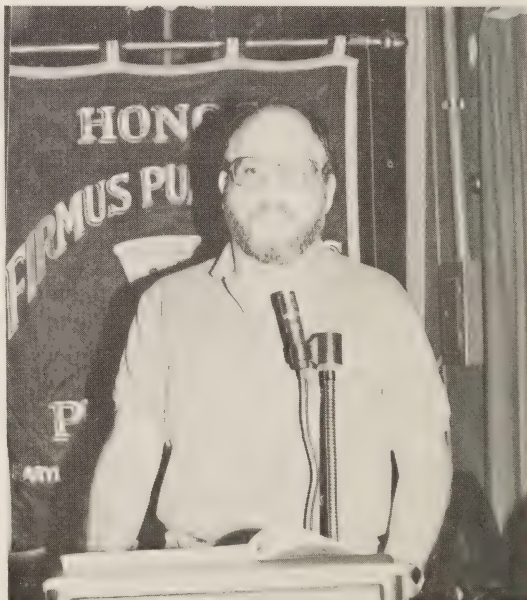
When I sat down to prepare a few remarks in appreciation for the honor granted to me tonight I really thought it would be easy! After all it's only a few minutes—and—I'm given to speak at great length on occasion! But suddenly memories started to flood my mind. It's been a shade over forty years since I graduated from Pharmacy School—with dreams and ideals brimming over! At that time there were so many giants—truly giants—of pharmacy toiling in the fields, any one of whom I could choose as a guide for my future, a model for the image I wanted to be. But suddenly I knew that giants though they were, I did not want to fit a mold—I wanted, for better or for worse to be me! Easy, you say! *No*, hard, deeply, profoundly hard. Finding yourself is one of the most arduous tasks you can ever undertake—BUT—tonight I want to charge you all with that fervor—that desire—wherever your paths take you, wherever you stay, **BE YOURSELF**. No carbon copy of an ideal is a truly successful or a truly happy person. Young men and women, who are here tonight, seek deeply inside yourselves and find what you are, what led you to choose pharmacy as a profession—and THEN with all the

## Third Party Committee Charts

As I am sure everyone realizes it has been a very active year on the Third Party Front in Maryland. While it is pleasant to report that some significant progress has been made in several areas, I would be remiss if I did not say there is still much to be done.

The Pharmacy Liaison Committee for Maryland Medicaid has been meeting on a monthly basis since last September and addressed various subjects in the course of its deliberations. Some positive steps which have been taken are the changes in the rules for prior authorizations raising the dollar limit to \$40, the creation of a hot-line to a member of the staff at the State level for those authorizations which are still required, the expansion of the Pharmacy Assistance Program, the commitment of high level persons within the Medicaid Staff to institute some reimbursement for tape-to-tape billings to those stores that have the computer capability and adhere to the State computer format, and the resolution of minor administrative details which are nuisance-type problems for the participating pharmacies. Of course, it is a pleasure to report again the 40¢ increase in the dispensing fee to \$2.95 which commences July 1st. I must say that Dave Banta and members of our Legislative Committee did an excellent job watchdogging this through the budgetary process in Annapolis with great success.

Those topics still under consideration within the Medicaid Liaison Committee are reimbursement for maintaining Patient Profiles, increasing the allowable time to be covered by one Medical Assistance prescription from 100 to 180 days, a concurrent raising of the number of allowable refills, and the advisability of having a diagnosis indicated by the physician on a Medicaid prescription.



MPHA Third Party Committee Chairman Marvin Friedman delivers his final report to the Convention. Marv will be moving to New York where he will open a new pharmacy. The Convention officially thanked him for his past work as Chairman of the Third Party Committee.

# Morgenroth Addresses Banquet

strength that's in you, resist the turmoil around you and follow that little glimmer you'll find, and above all else, rich or poor, wise or foolish, BE YOURSELF, warts and bumps, and all. If you succeed in that pursuit, then you will be a credit to yourself. To your parents and most of all to the PROFESSION which we all hold as a common ideal—The Profession of Pharmacy. I'm not quite sure of how well I've succeeded in my search for ME—but I do know that tonight I am a happy man, proud of my wife and children and family, blessed by a partner and his family, without a parallel, grateful for all that Pharmacy has brought to me—friends, success, and I hope respect—but most of all I can hold my head up high and say to my own-self, I have tried to be true.

Thank you, thank you all for this honor with which I reach a pinnacle! and I know it is indeed time for this white-haired old codger to say to the youth, Come now and take over. We give you a real Profession, full of chinks and cracks its true, but a real profession to practice and to make a perfect partner in the health services team.

So, now I again thank you, and may God bless you all.



A more lively note was injected into the MPhA Business Sessions at the Annual Convention because they were held in the Carousel's Disco Nightclub by special arrangement.

## New Gains

The Pharmacy Advisory Committee to Maryland Blue Cross and Blue Shield had one meeting during the past year at which a number of mutual concerns were discussed. Among those were all aspects of Blue Cross Utilization Review and the need for this type of monitoring to prevent abuses in the program which could be costly to both the pharmacists and Blue Cross. Also discussed was the possibility of a sliding scale fee and/or individual contracts, due to implications of the Royal Drug Supreme Court decision. In connection with this topic there was mention of a dispensing fee adjustment by Mr. Stuart Baltimore of Blue Cross, but since that time no further progress has been communicated to us. As a result of this meeting a new Pharmacist's Guide has been prepared by Blue Cross and sent to all participating pharmacies.

As a result of much communication from pharmacists and continuing discussion by the committee and the administrator, Prescription Drugs Inc. announced the tendering of a contract to all pharmacies calling for charges for pharmacy services to be based on each provider's usual and customary charges to the public plus 25¢ per prescription handling charge. We feel this represents an enlightened attitude on the part of this plan and urge all pharmacies that participate to do so in a spirit of cooperation and fairness with PDI.

The committee has maintained a constant communications with all third party plan administrators active in Maryland and are hopeful that we can continue to make progress toward programs that are fair to all involved; the patient, the administrators, and above all the pharmacists who provide the services without which the plans would have nothing to offer their participants.

## PharmPAC Century Club



Pictured here are a few of the U.S. PharmPAC CENTURY CLUB members (contributors of \$100 to \$499). They are (left to right) Ronald Lubman, Tony Padussis, William Skinner, Samuel Lichter and Philip Cogan. Other Maryland Pharmacists in the CENTURY CLUB at press time were: Leo Mallard, Milton Sappe, Stan Yaffe, and Dick and Mary Ann Parker. Yaffee and Parker are members of the Board of Directors of the U.S. PharmPAC which contributes to candidates for Federal office. Contact any CENTURY CLUB member for more information.



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After earning his pharmacy degree at Purdue, Ed Strzelinski worked in a community pharmacy, but always wanted to make pharmaceutical products, in the large sense.

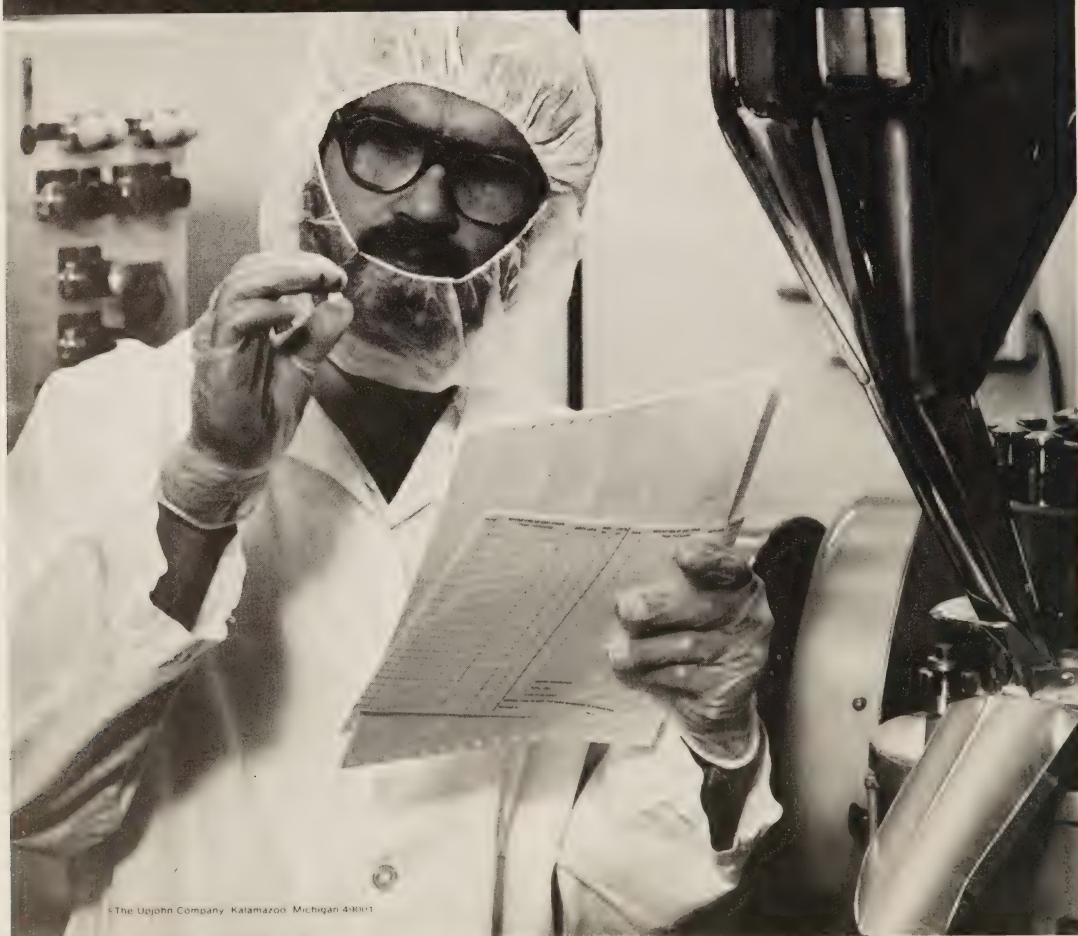
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## Chairman Milton Sappe delivers Legislative Committee Report

Probably all of you who are going to read this report are well aware of the legislative results this year. Excellent coverage has been given in the Newsletter. A list of legislation and its disposition will follow.

EFFECTIVE JULY 1, 1980 Medicaid fee goes to \$2.95

- HB 97 *To require warning of possible drug interaction – Defeated.*  
HB 532 *To allow correctional institutional pharmacies to fill Rx for inmates and not be open to public – Defeated.*  
HB 535 *To prohibit use of drugs ruled ineffective on medical assistance program – Passed.*  
HB 536 *To repeal price poster law – Defeated.*  
HB 936 *Requiring ID on each tablet and capsule – Defeated.*  
HB 1325 *To prohibit distribution in Maryland of drugs which do not have approved NDA when required – Defeated.*  
HB 1712 *Limiting sale of OTC pregnancy kits – Defeated.*  
SB 305 *Provides for 2 consumer members of each Health Board – Passed.*  
SB 646 *Allowing physicians who are more than 10 miles from nearest pharmacy to dispense drugs for a profit. Safeguards built into bill require physicians to request payment and gives Secretary of Health the right to approve with advice of State Board of Pharmacy – Passed.*  
SB 780 *Tax cigarettes at wholesale level – Passed.*

I would like to thank all those members of the Association who gave of their time and effort to working on and testifying for and against legislation.

One person I would like to thank individually—Dave Banta. I have worked with Dave the last 2 years and have

seen the dedicated effort he puts forth on behalf of our Association in Annapolis. Without Dave and his overall effort our Association would not be where it is today. He has developed a rapport with the legislators and other health care providers so necessary to making a concerted effort for and against affecting laws. Needless to say we owe Dave a large dose of gratitude.

This year is past and new year is where we must focus our attention. Do we again fight for repeal of the price poster bill since we were so close to winning this year? Is mandatory continuing education a necessary tool to keep us all alert and able to handle all the changes in the profession? Is it time for us as pharmacists to be able to dispense a third class of drugs such as a Paregoric type antidiarrheal mixture? We certainly have the professional know-how. Does Parepectolin have so many more side effects than Afrin, Hydrocortisone or the antihistamine? Everything I read says people are self-medicating more and using us the pharmacist as reliable informational sources. Where does next year's legislative committee go?

Getting away from state legislation, I would like to mention a bill sitting in the Judiciary Committee in Congress, HR 6895. While it does not seem to be going anywhere at this moment deserves our attention and action. It's passing would put us in a strong bargaining with the third party providers. I strongly urge the Association and you as individual members to contact your local legislator and members of the house judiciary committee.

In closing I would like to remind you that Dave and the legislative committee are again going to need the support of all the Association members if they are going to represent you effectively at Annapolis next year. Concerted action is what gets the job done.



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Mr. Banta:

We shall appreciate publishing the following announcement regarding our *NEW MEETING PLACE*, effective September 17th, 1980.

*Baltimore Veteran Druggists  
Association New Meeting Place*

Effective Wednesday, September 17th, 1980 our new meeting place will be held at GORDONS OF PIKESVILLE, 1017 Reistertown Road, Pikesville, 8.

We have engaged a very fine private dining room, fully air conditioned and with ample parking facilities, with a very selective menu for all meetings. Our Bulletin announcement will be in the mails September 1st, 1980.

Thanks Mr. Banta.

Sincerely

Charles R. Kesmodel, *President*

Charles E. Spigelmire *1st Vice-Pres.*

Samuel A. Goldstein, *2nd Vice-Pres.*

B. F. Allen, *Secty.-Treas.*

E. W. Piper, *Asst. Secty.*

Dear Mr. Banta:

Mr. Ray Dalbke informed me of your interest in MINOCIN (minocycline hydrochloride) and the fact is is not necessary to take MINOCIN on an empty stomach.

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It would be appreciated if you would inform Maryland pharmacists of this important difference. Should you need additional information, please let me know. Very truly yours,

L. D. Rogers  
*Regional Sales Manager*

### For your information

## AMA Prescribing Guidelines for Physicians

1. Use barbiturates and other sedative-hypnotics for relief of severe symptoms, but avoid them for minor complaints of distress or discomfort.

2. Attempt to diagnose and treat underlying disorders before relying on drugs of this class by symptomatic relief.

3. Assess susceptibility of the patient to drug abuse before prescribing barbiturates or any other psychoactive drugs. Weigh benefits against hazards.

4. Use dosages that will not lower sensory perception, responsiveness to the environment or alertness below safe levels.

5. Know how to administer barbiturates when clinically indicated for withdrawal in cases of drug dependence of the barbiturate type.

6. Using periodic checkups and family consultations, monitor possible development of dependence in patients who are on an extended sedative-hypnotic regimen.


7. Prescribe no greater quantity of a drug than is needed until the next checkup.

8. Warn patients to avoid possible adverse effects because of interaction with other drugs, including alcohol.

9. Counsel patients as to the proper use of medication — follow directions on the label, dispose of old medicine no longer needed, keep medicine out of reach of children, do not "share" prescription drugs with others.

10. Convey to patients through your own attitude and manner that drugs, no matter how helpful, are only one part of an overall plan of treatment and management.





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# ABSTRACTS

Excerpted from PHARMACEUTICAL TRENDS, published by the  
St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor  
and Leonard L. Naeger, Ph.D., Associate Editor

## **PREDNISOLONE VS. PREDNISONE:**

For many years, prednisolone and prednisone have been used interchangeably. A study conducted in 10 healthy volunteers has found that prednisone levels are more consistently attained when the drug is administered as the pro-drug, prednisolone. The authors of this paper suggest that prednisolone be utilized when either drug is indicated. *DRUG THER B*, Vol. 17, #22, p. 87, 1979.

## **CAPTOPRIL:**

Captopril is an orally effective inhibitor of converting enzyme and thus is being used experimentally to treat hypertension. Certain side effects have been recorded but a recent study has associated loss of taste sensations with captopril therapy. This side effect is reversible upon discontinuation of therapy. *BR MED J*, Vol. 2, #6204, p. 1555, 1980.

## **WEIGHT REDUCTION:**

Some patients seem to be unable to lose weight even when dietary intake is drastically reduced. A study of these individuals has found that some patients fail to lose weight because they had experienced a degree of resistance to triiodothyronine (T-3). Since T-3 is extensively involved in the regulation of body metabolism, the presence of insensitivity to its effect will prevent adequate utilization of body carbohydrate and fat. *LANCET*, Vol. 1, #8163, p. 223, 1980.

## **BARBITURATE TOXICITY:**

Unlike narcotics, there is no specific antidote for toxicity produced by overdoses of the barbiturates and related compounds. Symptomatic methods of treatment have been utilized and now it appears that hemoperfusion can be added to the list of effective antidotal techniques. For good results, the perfusion process needs to be continued for 3 to 5 hours for the shorter acting barbiturates. However, if phenobarbital is implicated, the perfusion time will need to be increased. *CLIN TOXIC*, Vol. 15, #2, p. 139, 1980.

## **ASPIRIN:**

The erosive effect of aspirin on the gastrointestinal tract is well documented but the influence of phenacetin, acetaminophen and caffeine has not been extensively studied. When added to aspirin, acetaminophen seems to reduce the irritation to the gastric mucosa. The addition of phenacetin to the product did not alter the irritation produced by aspirin, but caffeine did seem to make the condition more serious. Caffeine has little if any place in analgesic preparations and it seems now, after using caffeine in analgesic preparations for over a half century, that this fact is being recognized and it is being removed from these products. *J PHARM PHA*, Vol. 31, #12, p. 840, 1979.

AUGUST, 1980

## **MOUNTAIN SICKNESS:**

Mountaineers have been noted to experience respiratory alkalosis while climbing in areas of rarified air. Hyperventilation occurs, especially while asleep and thus the individuals suffer symptoms of acute mountain sickness, including insomnia and headache. In order to help prevent the development of respiratory alkalosis, acetazolamide (Diamox) was administered to nine healthy mountaineers. While asleep at an elevation of 5360 meters, no problems were noted when tracings from magnetometers were analyzed for breathing problems. Acetazolamide, which produces a mild degree of metabolic acidosis, apparently is of value in improving oxygenation at high altitudes and thus can prevent the development of symptoms of mountain sickness. *N ENG J MED*, Vol. 301, #24, p. 1329, 1979.

## **VITAMIN C AND VITAMIN B-12:**

Reports have appeared in the literature which suggest that large, oral doses of vitamin C can cause degradation of vitamin B-12 found in the diet and thus reduce its effectiveness. To test this further, the vitamins were placed in a homogenizer and incubated at 37 degrees C for 30 minutes to mimic the environment of the stomach. After this time, all the vitamin B-12 could be recovered. Authors of this paper suggest the previous experiments found the concentration of vitamin B-12 to be decreased because extraction techniques used by others did not satisfactorily remove all the vitamin from the mixture for analysis. *J AM MED A*, Vol. 242, #21, p. 2319, 1979.

## **DIETS AND ULCERS:**

Patients with ulcers are often advised to eat bland diets in order to help facilitate ulcer healing. There seems to be little evidence that bland diets actually are valuable when used alone in ulcer patients. It is suggested that one use the H-2 antagonists to treat ulcer patients. This will allow them to eat a more normal diet and increase their quality of life. *BR MED J*, Vol. 280, #6209, p. 205, 1980.

## **INSULIN INJECTIONS:**

Diabetic patients utilizing insulin injections may experience a variation in their response to the injection depending on the site at which the injection is made. Patients often rotate sites in order to prevent local effects produced by the injection process. Physicians have suggested that variations in response to insulin injections may be minimized if the patient varies the insulin injection site within the same anatomical region of the body rather than injecting the hormone in different regions. *ANN INT MED*, Vol. 92, #1, p. 59, 1980.

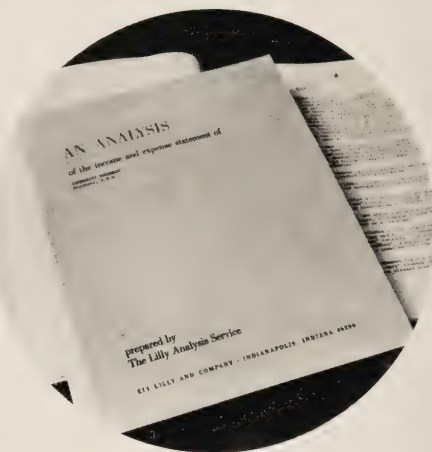
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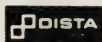
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# The Heimlich Maneuver

**F**ood choking is the sixth leading cause of accidental death and one that can be prevented by a simple first-aid procedure known as the Heimlich Maneuver, after the doctor who developed it.

The technique is outlined here. Learn the procedure so that, if an episode should occur, you can save a life—maybe your own—from food asphyxiation.

A person choking on food will die in four minutes . . . unless you recognize and take action.

## Symptoms of Choking

The choking victim:

- cannot breathe
- becomes panicky (may run)
- becomes pale
- becomes cyanotic (blue)
- collapses
- dies in four minutes!

The victim of food choking is often *mistakenly* thought to be having a heart attack. It is important to use a universal sign to indicate choking to avoid this. The victim should grasp his neck between the thumb and index finger of one hand to signal he is choking on food.

## With the victim standing or sitting



1. Stand behind the victim and wrap your arms around his waist.

2. Grasp your fist with the other hand and place the thumb side of your fist against the victim's abdomen, slightly above the navel and below the rib cage.

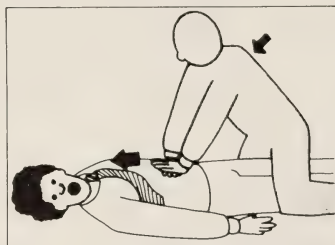
3. Press your fist into the victim's abdomen with a QUICK UPWARD THRUST. Repeat as often as necessary.

4. If the victim is sitting, stand behind the victim's chair and perform the maneuver in the same manner.

5. After food is dislodged, have the victim seen by a doctor.

## When the victim has collapsed and cannot be lifted

1. Lie the victim on his back.
2. Face the victim and kneel astride his hips.
3. With one hand on top of the other, place the heel of your bottom hand on the abdomen slightly above the navel and below the rib cage.
4. Press into the victim's abdomen with a QUICK UPWARD THRUST. Repeat as often as necessary.
5. Should the victim vomit, quickly place him on his side and wipe out his mouth to prevent aspiration (drawing of vomit into the throat).
6. After the food is dislodged, have the victim seen by a doctor.



*Note: If you start to choke when alone and help is not available, an attempt should be made to self-administer this maneuver.* ■

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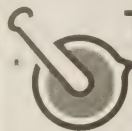


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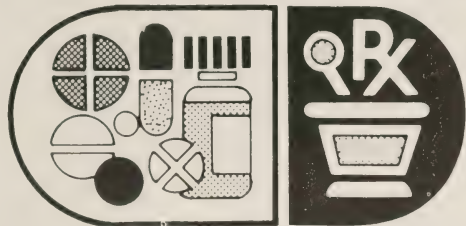
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## **Malnutrition and its Treatment**

*— Kathryn C. Higbee, Peter P. Lamy*

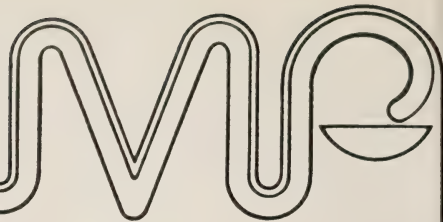
## **Medical Assistance Survival Charts**

**Fall Regional Meeting  
October 23, 1980, 7:00 p.m.**

**Kelly Memorial Building  
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# THE MARYLAND PHARMACIST

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September 1980

Vol. 56

No. 9

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Let us be reminded again that our state professional association is less than a year and a half from the beginning of its centennial year (1982). We are also beginning a decade in which our profession shall assume its rightful place on the health care team and resume its place of respect within the communities (practice environments).

As efforts continue to determine how we are to achieve and maintain deserved levels of professional competencies we must continue to use the knowledge gained in serving the patient within our individual environment. The cooperation of which I have written before between pharmacists in a given area can be developed around individual interests, specialties and capabilities: all in the best interest of the patient. Group efforts to educate patients in matters of health care can often override duplication of effort and expense.

We must concentrate on developing the capabilities to use the tools being provided for us as individuals, to become involved in shaping the future of the profession and to assure due recognition for that participation and involvement.

We are being asked as individuals and as a group to take sides on major issues such as professional designation and supportive personnel recognition. Neither is a new issue. As we work cooperatively toward developing and promoting the pharmacy image of the 1980's let our best profile be judged by those around us.

Samuel Lichter



### Malnutrition

"A sick, injured, severely burned or septic patient utilizing 5000 to 6000 calories per day will not eat the equivalent of four pounds of steak, one loaf of large Italian bread, one large apple pie, one quarter pound of butter, and a quart of milk that is needed to provide the daily calorie and protein needs"<sup>1</sup>.

Death from malnutrition occurs in under developed countries who either do not have the resources or the technology to feed their people. Death from malnutrition also occurs in hospitals in the United States, one of the most affluent countries in the world<sup>1</sup>. Most hospitalized patients who are malnourished are admitted in this condition, but others become nutritionally depleted while undergoing therapy for various diseases<sup>2</sup>. In general, American physicians have little or no education in nutrition and frequently do not recognize the deteriorating nutritional status of the patient<sup>1, 3</sup>.

### Prevalence and Causes of Malnutrition

Malnutrition is usually the result of malabsorption, anorexia or hypermetabolism, conditions to which chronically ill and trauma patients are highly susceptible<sup>4</sup>. Surveys indicate that there is a high prevalence of malnutrition no matter what kind of hospital or what specialty service<sup>3</sup>. For example, a survey at Boston City Hospital demonstrated that 50 percent of its general surgical patients and 44 percent of its general medical patients were suffering from protein-calorie malnutrition<sup>2</sup>. In an Atlanta hospital, between 25 percent and 60 percent of general medical patients were malnourished<sup>4</sup>.

Malnutrition is the result of amino acid depletion<sup>2</sup> and may occur by two different mechanisms, leading either to marasmus or kwashiorkor. Patients, depending on the type of malnutrition, may present with greatly differing appearances. The marasmus patient will be gaunt and cachectic, while the kwashiorkor patient may look deceptively well-fed and even obese<sup>5</sup>.

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# Malnutrition and Its Treatment

by

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&

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Marasmus is caused by general starvation, in which both protein and carbohydrate intake is insufficient. Therefore, the patient's fat stores and skeletal muscles are depleted to provide energy, but the circulating plasma protein levels remain normal until the very late stages of the disorder<sup>2, 6, 7</sup>.

In the kwashiorkor patient, dietary protein intake is insufficient but carbohydrate intake remains adequate. High carbohydrate levels stimulate the production of insulin which suppresses the breakdown of muscle protein for use as substrate for plasma proteins<sup>6, 8</sup>. Therefore, even though the marasmic patient may look deceptively poor, he is still protected to a better degree than the kwashiorkor patient, as circulating plasma proteins are necessary for body homeostasis and for the maintenance of immunocompetence<sup>6, 8, 9</sup>.

If in either type of patient protein wasting proceeds unchecked, and 50 percent of the ideal body weight<sup>10</sup>, or one-third of the total body protein is lost, respiratory muscles can no longer function and death results.

### Recognition of the Malnourished Patient

Malnutrition, even in the common, less extreme forms, should be of utmost concern in hospitalized patients because an altered nutritional status can change response to therapy<sup>6, 11</sup>. The nutritional status can adversely influence the recovery rate of patients with acute renal failure<sup>12</sup>, the morbidity in heart valve replacement candidates<sup>4</sup>, and recovery from surgery<sup>3</sup>. Therefore, it is important to detect malnourished patients early, but it is not clear which tools used in detection are clinically significant, and will identify the patient at risk<sup>3</sup>. Anthropometric measurements, weight loss, depressed levels of serum albumin and/or transferrin, low lymphocyte counts, or anergy have been used with fairly good success<sup>3, 13, 14</sup>.

Arm-muscle circumference and creatinine-height index are used in the evaluation of skeletal protein stores<sup>2, 7</sup>. Body fat may be estimated by measuring the triceps skinfold with special skin calipers<sup>2, 3, 15</sup>. Total body weight is too often ignored, and is rarely viewed as a "vital sign" until severe losses make the patient's condition "glaringly obvious"<sup>15</sup>.

Visceral protein status may be assessed by determining serum albumin or transferrin levels<sup>2</sup>. Albumin is an excellent indicator of poor nutritional status<sup>7</sup>. Serum

transferrin, however, a protein involved in iron transport, is considered a more sensitive indicator of visceral protein stores because it has a faster turnover rate and will therefore reflect changing nutritional status more rapidly<sup>7</sup>. It should be noted, though, that transferrin is normally increased in stress and in iron deficiency and additionally is not considered a good indicator in children with malnutrition<sup>7</sup>.

Skin testing is used to detect cell-mediated immunity, which relates to the patient's ability to resist infection<sup>16</sup>. Antigens commonly used include PPD, Mumps, Candida, Trichophyton, and Streptokinase-Streptodornase. It has been shown that patients who are anergic, or relatively anergic, have significantly higher sepsis and mortality rates<sup>16</sup>.

At present, the most clinically significant indicators of patient risk due to malnutrition are thought to be serum albumin levels below 3 g./dl. (these patients are 2.5 times as likely to experience complications as immunocompetent patients), serum transferrin levels below 220 mg./dl. (these patients have 5 times the rate of complications), and anergy (these patients are 2.5 times as likely to experience complications)<sup>3</sup>.

### Nutritional Support

#### Enteral

The gastrointestinal (G.I.) tract is the normal route through which the body acquires nutrients. Ingestion, digestion and absorption occur naturally, making oral feedings the optimal choice for rebuilding chronically wasted or catabolic tissue<sup>17</sup>. Often, however, a normal diet cannot be used, either because the patient can't or shouldn't use the gastrointestinal tract or because it has been nonfunctional and has lost some of its ability to digest and absorb nutrients<sup>18</sup>. Although this loss of function is reversible, restoration is a slow process<sup>18</sup>. For patients with impaired absorptive capacity, enteral feedings have been developed. The patient can either drink these liquid preparations or have them administered via nasogastric (N.G.) tubes, which are now much less troublesome than before, as they are thinner and more flexible than their older counterparts<sup>4</sup>. Enteral support is less expensive, less complicated<sup>4</sup> and provides better calorie support than intravenous feedings<sup>19</sup>, although aspiration has been an associated problem in some instances<sup>17</sup>. Ileostomy or jejunostomy tubes have also been implanted in patients in whom only the lower portion of the G.I. tract is functional, with similar advantages.

#### Parenteral

Efforts to support patients by administering substances intravenously have been made for more than 300 years. In the 17th century Sir Christopher Wren successfully injected fluids into a patient, followed only a few years later by the first blood transfusion from animal to animal, conducted by Richard Lower<sup>20</sup>. The 19th century saw the first man to man blood transfusion, and the administration of saline solutions to correct the dehydra-

tion of cholera patients<sup>20</sup>. Perhaps one of the earliest efforts at intravenous nutritional support was Hodder's attempt to inject milk into a man suffering from cholera<sup>13</sup>. During the 1930s, protein hydrolysate solutions were first prepared by using a solution of pancreatic enzymes to digest goat muscle. The product of this process was then combined with glucose, sodium and potassium to provide more complete supplementation<sup>13</sup>. Although these solutions sparked interest among members of the medical community as a method of replacing the large nitrogen losses demonstrated by Cuthbertson<sup>21</sup> to result from serious fractures, they were unsuccessful in restoring weight loss, plasma proteins, or correcting anemia.

A major breakthrough in the field of intravenous nutrition occurred in 1967 when Dudrick and his colleagues<sup>13 22</sup> demonstrated that puppies and subsequently, an infant, fed exclusively by vein could grow and develop normally. The significance of their work lay in the fact that they proved that a patient could "... gain solid tissue weight and pass into indubitably significant and lasting anabolism on the basis of parenteral nutrients alone"<sup>23</sup>. Just eight years later, parenteral nutrition was being implemented routinely at more than 50 medical institutions. It has been acclaimed as the most significant development in surgery in the last 30 years because of its capacity to save lives<sup>24</sup>.

Intravenous feeding is also called parenteral "hyperalimentation" to indicate that nutrients are being supplied in excess of basal energy requirements so that positive nitrogen balance may be achieved<sup>25 26</sup> and depleted nutritional stores restored<sup>27</sup>.

Parenteral nutrition is indicated for any patient who "... cannot eat, will not eat, should not eat, or cannot eat enough"<sup>25</sup>. Estimates vary on the size of this population from less than one percent to less than five percent of all hospital admissions<sup>13 28</sup>. Patients in this category comprise the major part of intensive care unit admissions<sup>28</sup>.

The general indication for parenteral nutrition is G.I. failure. The causes for this failure are numerous:

1. Mechanical obstruction<sup>17 29</sup>
2. Prolonged reflex or postoperative ileus<sup>30 31</sup>
3. Acute inflammatory or catabolic processes<sup>17 30</sup>
4. Short-gut syndrome from fistula or bypass<sup>17 30</sup>
5. Cancer therapy<sup>29</sup>
6. Burns<sup>32</sup>

Mechanical obstruction can take the form of tumors, or congenital structural abnormalities in infants<sup>17</sup>. Ileus, a paralyzed alimentary tract, can result from many different metabolic, traumatic, reflex or inflammatory disorders<sup>17 30</sup>. Various forms of inflammatory bowel disease are improved after the rest period afforded by this therapy. Patients afflicted with this particular type of disorder are often chronically malnourished as a result of poor intake, malabsorption and protein leakage from the inflamed bowel; even if rest does not correct the condition and surgery is ultimately required, the patients respond better because of their improved nutritional



status<sup>17 33</sup>. Patients with actual physical loss, or loss of use, of major segments of the small intestines need parenteral supplementation while the remaining intestine adapts to performing the variety of functions once managed by the entire bowel<sup>17</sup>. Cancer patients who become anorexic due to their disease or the side effects of chemotherapy are more and more frequently receiving parenteral nutrition. Burn patients often require parenteral nutrition support because of the severity of the catabolic response to thermal injury<sup>32</sup>.

Various clinicians have developed their own criteria for identifying candidates for nutritional support. One physician feels that this therapy is necessary in any patient who has lost more than 10 percent of body weight due to a disease state or in whom intravenous (IV) fluids will be required as sole support for several weeks<sup>34</sup>. Another proposes that it is appropriate in any patient who has had negligible oral intake for more than one week<sup>13</sup>. Since surgical patients can be expected to require parenteral nutrition more often than medical patients because of an increased incidence of G.I. impairment<sup>11</sup>, many of the recommendations relate to postsurgical inanition. Hyperalimentation is suggested as being appropriate if oral feeding has not resumed for any time from 72 hrs. to 10 days after surgery<sup>13 17 30 35</sup>. The length of time and the degree to which parenteral nutrition therapy is required depends on the duration of failure of the alimentary tract<sup>11 13</sup>.

The physician should be careful not to delay unnecessarily in instituting this technique, since it may improve patient survival rates<sup>36</sup>. Caution must also be exercised, however, in avoiding overuse and abuse<sup>10 37</sup>. Not all malnourished patients are candidates for parenteral nutrition, and the risk to benefit ratio, in addition to alternative methods of feeding, must be evaluated on an individual basis<sup>24</sup>.

### *Total Parenteral Nutrition*

Total parenteral nutrition (TPN) is defined as the peripheral or central administration of amino acids, glucose and fat. Peripheral therapy is limited in its ability to provide support by the tolerance of peripheral veins to solutions of high osmolality. Different investigators claim that thrombosis occurs at osmolarities ranging from over 500 mOsm. to over 1200 mOsm.<sup>38</sup>. Attempts have been made, however, to raise this limit by including heparin and cortisol in each liter<sup>39</sup>. Nevertheless, calories supplied can generally not exceed 1400 to 2000 kcal./day<sup>13 40</sup>. This level of supplementation is sufficient in non-septic, previously well nourished patients for up to 30 days<sup>6 41</sup>, but it is inappropriate in catabolic patients<sup>41</sup>. Central TPN requires placement of a catheter into the superior vena cava where the volume and rate of blood flow can dilute highly osmolar, high caloric infusions for prolonged periods of time<sup>41</sup>. Total volume of daily therapy usually ranges from three to five l./day, limitations imposed by the kidney's ability to handle the fluid load<sup>20 41</sup>. Because part of the calories are supplied in the form of fat, osmolality is less than if carbohydrate were the only source. Additionally, the lower concentration of dextrose causes fewer instances of hyperglycemia

and dehydration<sup>40</sup>. The advantage of decreased insulin demands is particularly beneficial in diabetics who must be fed parenterally<sup>42</sup>.

### *Intravenous Hyperalimentation*

What was formerly termed a TPN solution is now referred to as an Intravenous Hyperalimentation (IVH) Solution. It should primarily be used for fat-intolerant patients, is administered centrally, and supplies 2400 to 3000 kcal./day. As this solution does not supply fat, essential fatty acid deficiency may occur, and high insulin requirements from the dextrose load can create clinical problems<sup>40</sup>.

### *Protein Sparing*

Nutrition support is also given peripherally in the form of hypocaloric solutions of amino acids. Since only 20 to 25 percent of the patient's required calories are supplied by this means, weight losses can amount to 0.5 to 0.7 kg./day<sup>43</sup>. For this reason, candidates for protein sparing must have adequate fat stores. Low insulin levels during the amino acid infusion permit breakdown of fat stores, preventing fatty acid deficiency<sup>43</sup>, adaptation to ketogenesis, and sparing of muscle and visceral proteins<sup>44</sup>. Endogenous free fatty acids (F.F.A.) and ketone bodies can contribute significantly to the calories required as energy, in order that the infused amino acids can be used for tissue synthesis<sup>22 43 45</sup>. This type of therapy has the major advantage of sparing body protein stores from the effects of catabolism. Controversy exists, however, whether or not the degree of protein sparing is as superior as Blackburn<sup>44</sup> claims it is to dextrose alone<sup>9 31 43</sup>, or to peripheral amino acids plus dextrose or fat<sup>46</sup>.

### **Some Important Considerations in Parenteral Nutrition**

Patients with non-functional G.I. tracts who are substantially nutritionally depleted or severely catabolic for long periods of time require placement of a central venous catheter and either central TPN or IVH<sup>6</sup>. Normal serum osmolality is approximately 300 mOsm./l.; the central parenteral nutrition (PN) solution usually ranges from 1800 to 2200 mOsm./l.<sup>4 47</sup>. Blood flow in the superior vena cava is so rapid, though, that normal osmolality and normal glucose concentrations are found within 1.5 to 2.5 cm. from the tip of the catheter<sup>25</sup>. Serious thrombophlebitis could result if the catheter is incorrectly placed, and X-ray confirmation of the catheter tip position should be mandatory<sup>48</sup>. The central TPN catheter should be used only for the administration of PN solutions, or the incidence of catheter induced sepsis will increase<sup>13</sup>. Maintenance of sterility is of utmost importance in all aspects of the therapy<sup>34 39</sup>, especially in the placement of the catheter, where caps, masks, gowns, gloves and drapes should be used<sup>22</sup>. Various recommendations exist regarding the proper care of the dressing<sup>35</sup> and tubing<sup>22</sup>, and conditions under which the solutions are prepared<sup>22 35 50</sup>. The catheter should be suspected as the primary cause should a patient develop a fever, although the debilitated state of most of the patients makes them susceptible to infection from a variety of sources. If

an alternate source for the fever cannot be found quickly, the current PN solution is discontinued and cultured and the tubing is changed<sup>1</sup>. If necessary, the catheter is removed<sup>1 17 36</sup>. In one study, however, approximately 75 percent of pulled catheters were not the source of the patient's fever<sup>22</sup>.

The patient who is started on PN therapy should receive a low number of calories initially which is gradually increased as the body adapts to the increased intake<sup>7</sup>. The generally accepted method of initiating central PN is to administer one liter on day one over 24 hrs., two liters on day two, and three liters on day three<sup>49</sup>. Further increases can be tolerated up to four or five l./day, if the patient requires an extremely large number of calories (more than 3500 kca./day), but this is usually unnecessary<sup>49</sup>. Starting at a slow rate also allows the pancreas to respond to the rising dextrose load.

When stopping central PN, the rate should be slowed for 24 hrs. and then followed by an infusion of five percent or 10 percent dextrose for 12 hrs.<sup>21 46 49</sup> to prevent possible rebound hypoglycemia.

### Formulation of Parenteral Nutrition Solutions

In formulating PN solutions, the attempt is made to provide all known nutrients in the same quantity and form as would be absorbed from a normal diet<sup>51</sup>. Three or four liters per day should supply the patient with the minimum daily requirements for almost all essential components<sup>39</sup>, even if the duration of therapy is expected to be prolonged.

The average healthy adult requires between 0.5 g.<sup>52</sup> and 0.9 g.<sup>53</sup> of protein/kg. of body weight/day. For a theoretical 70 kg. male, this would translate to between 35 and 63 g. of protein each day, or from 5.6 to 10 g. of nitrogen (a gram of protein contains approximately 16 percent nitrogen). During periods of stress from sepsis or trauma, however, these requirements may increase by as much as 200 percent<sup>54</sup>. One expert in the field claims that in severe stress, protein requirements approach 2.25 g./kg. of body weight/day<sup>55</sup>. This protein can be supplied either as protein hydrolysate or crystalline amino acid solutions.

#### Protein

Protein hydrolysates are prepared by enzymatically digesting a milk protein, casein, or hydrolyzing a beef

protein, fibrin, with acid<sup>56</sup>. The product of these processes is difficult for some patients to use because it contains an estimated 40 percent of partially undigested dipeptides and tripeptides which must be further broken down before they can be used<sup>29 36</sup>. Protein hydrolysates do not have a predictable amino acid content or optimum ratios of essential to nonessential amino acids. They are acidic, capable of producing allergic reactions in some patients, and contain large amounts of ammonia<sup>20 46</sup>.

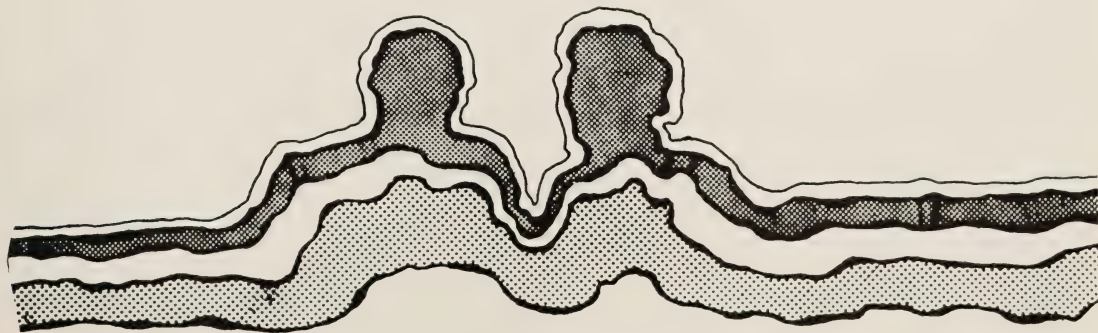
Crystalline amino acid solutions are a more recent development which do not have many of the drawbacks associated with protein hydrolysate solutions<sup>12</sup>. They are prepared synthetically and have only free amino acids in the most readily usable form<sup>56</sup>. Fewer sensitivity reactions, instances of hyperammonemia and acidosis have been reported with their use<sup>5</sup>. Because they are synthetic, quantities and ratios of amino acids are reliably fixed<sup>56</sup>, and they result in better protein sparing<sup>57</sup>.

Essential amino acids are those amino acids which the body is incapable of synthesizing<sup>58</sup>. Investigations have been conducted very recently to determine whether a solution solely composed of essential amino acids improves the survival rate of patients suffering from actual renal failure. Conflicting results have been obtained<sup>12</sup>.

Current research is evaluating the potential uses of solutions with increased concentrations of branched chain amino acids (BCAA). These amino acids, leucine, isoleucine and valine<sup>59</sup>, may be the best source of energy in septic patients<sup>27 60</sup>. Also, since BCAAs don't have to be oxidized in the liver, they may be of benefit in patients with liver disease. Some data suggest they may possibly improve hepatic encephalopathy by competing with phenylalanine and tryptophan at the blood-brain barrier<sup>61</sup>. These amino acids are thought to promote production of serotonin at the expense of dopamine and norepinephrine, leading to drowsiness and accentuating the tendency of the patient to develop hepatic coma<sup>62</sup>. Amino acid solutions containing no other ingredients will supply only energy and will not produce anabolism. Therefore, the protein source must be accompanied by a calorie source<sup>44</sup>.

#### Energy Requirements

An average adult healthy male requires approximately 27 to 30 kca./kg./day, and a female, 23 to 26 kca./kg./day to maintain body functions in a resting state. Elective surgery can increase these numbers by 10





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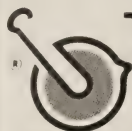


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percent, and major trauma or burns can double<sup>20, 29</sup> or even triple them<sup>10</sup>. Burn patients in particular have been known to need from 5000 to 6000 kcals./day<sup>17, 49</sup>.

The optimal ratio of non-protein calories to nitrogen appears to be in the vicinity of 150:1<sup>20, 43, 63</sup>, although one source claims that as great as a 300:1 ratio may be needed for efficient tissue synthesis<sup>53</sup>.

Basal energy expenditure (BEE) calculations or charts can be used to assist the clinician in the determination of calorie requirements for a given patient. One of the equations frequently used is the Harris-Benedict Standard which indicates the rate of body heat production compared to a predicted standard<sup>64</sup>.

In order to meet the caloric requirements of catabolic hospitalized patients, it has been calculated that from 1.5 to 2 times the BEE must be supplied, depending on the severity of the catabolism<sup>66, 67</sup>. At these caloric levels, positive nitrogen balance should result. At least one study, however, demonstrated that this mathematical estimate was accurately only in female, non-trauma patients<sup>68</sup>. This is perhaps partially due to the fact that the BEE equation does not take into account the increased caloric requirements of elevated temperature. There is a 7.2 percent increase in energy expenditure for each degree (Fahrenheit) increase in body temperature<sup>63</sup>. *Carbohydrate*: Calories can be safely administered in the form of dextrose or fat. Alcohol and other carbohydrates have not proven to be practical<sup>15, 13, 21, 69</sup>. The most widely employed source of calories is dextrose which supplies 3.4 kcals./g., is superior at providing energy and sparing protein, and is easily absorbed with the aid of insulin<sup>70</sup>. Cardiac function and circulatory status often improve upon dextrose administration, and deteriorating liver function may stabilize or improve<sup>70</sup>. Highly concentrated dextrose infusions are capable, however, of causing hyperglycemia and hyperosmolar dehydration. They may also cause thrombosis and may stimulate high insulin levels. This in turn can inhibit mobilization of fat and decrease peripheral amino acid mobilization, leading to an iatrogenic, kwashiorkor-like state<sup>71</sup>. *Fat*: By supplementing dextrose with fat, some of the drawbacks of highly concentrated dextrose infusions can be avoided. Fat supplies 9 kcals./g. and can be given either peripherally<sup>72</sup> or centrally<sup>20</sup>. The use of fat allows reduced fluid volumes to be used, thereby lessening the osmolar load that the patient must tolerate<sup>72</sup>. Lower dextrose concentrations also require less insulin. Insulin suppression of fat mobilization is decreased and exogenously administered fat prevents essential fatty acid (EFA) deficiency from occurring<sup>45</sup>.

Lipids comprise approximately 40 percent of the daily caloric intake of most adult Americans<sup>46, 72</sup>. EFA deficiency is not easily produced in adults fed a fat-free diet because endogenous fat stores can be mobilized, liberating enough linoleic acid<sup>45</sup>, but the biochemical and/or clinical manifestations of EFA deficiency are now reported more frequently<sup>45</sup>. Biochemical abnormalities are the initial symptom, occurring within five to seven days of the initiation of IVH<sup>45</sup>. Levels of linoleic acid and arachidonic acid fall, and the abnormal metabolic pro-

duct<sup>5, 8, 11</sup>, eicosatrienoic acid rises<sup>45</sup>. Prostaglandin synthesis decreases, and the patient may experience a characteristic dermatitis, hair loss, and an increased susceptibility to bacterial infection<sup>45</sup>.

Infusions of fat emulsion can be given at an initial rate of 2g./kg./day which may be gradually increased to 4g./kg./day<sup>72</sup>. Most patients tolerate soybean oil emulsions well, with side effects occurring in less than one percent of patients receiving it<sup>29</sup>. These are generally not of serious clinical consequence, and involve fever, chills, shivering, vomiting, and chest or back pain<sup>73</sup>. Seriously ill, hypermetabolic, septic patients occasionally have difficulty tolerating fat as a primary calorie source<sup>74, 75</sup>. In these individuals, intermittently administered units of fat emulsion may be given to prevent EFA deficiency<sup>75</sup>.

### *Electrolytes*

Certain electrolytes are required by the body to function normally. If the patient is being supported solely by parenteral nutrition, these must be added to the base solution containing the nitrogen and calorie source.

Sodium is the main extracellular cation. It plays an important role in regulating acid-base equilibrium, maintaining osmotic pressure, and preserving muscle irritability and permeability of membranes<sup>29</sup>. Sodium requirements have been estimated at 3mEq./100kcals. supplied/day<sup>20</sup>, or 40-50 mEq./l.<sup>14</sup>, although requirements may vary in trauma and postsurgical patients<sup>20</sup>. It has been suggested that the incidence of hyperchloremic acidosis during therapy may be decreased by keeping the added sodium to chloride ratio at 1:1<sup>76</sup>.

Chloride is involved in maintaining osmotic pressure, regulating acid-base balance, and forming hydrochloric acid used in the stomach for digestion<sup>29</sup>.

Potassium is the main intracellular cation and is involved in carbohydrate metabolism and in the transfer of high energy phosphate<sup>29</sup>. It is important to supply enough potassium in parenteral nutrition because this ion is necessary for the achievement of positive nitrogen balance. Nitrogen will not be retained unless there is enough potassium to be incorporated intracellularly into new tissue without producing severe extracellular hypokalemia<sup>14</sup>. Requirements are estimated at between 20 and 40mEq./l.<sup>14</sup>, although, in patients who are highly anabolic, hypokalemia may still result even at these levels<sup>49</sup>.

Phosphate is involved in energy transfer, the synthesis of deoxyribonucleic acid, adenosine triphosphate (ATP), intracellular proteins and membrane phospholipids<sup>49</sup>, and is necessary for the phagocytic and antibacterial activity of leukocytes<sup>29</sup>. Even more importantly, a low phosphate level can result in an increased affinity of hemoglobin for oxygen, leading to tissue hypoxia<sup>29</sup>. Impaired coagulation and increased rigidity of red blood cell walls also occur in hypophosphatemia<sup>21</sup>. Requirements for phosphate are estimated at 10 to 17 mM./l.<sup>14</sup>.

Calcium is found primarily in bone, with less than one percent of total body stores found in the circulatory system. Calcium assists in maintaining normal excitation of nerves and muscles, and in controlling membrane



permeability<sup>29</sup>. It is necessary to give calcium when phosphate is part of the additive regimen, because as the blood concentration of one rises, the other is depressed<sup>14</sup>. Estimated amounts needed as supplementation range from 4 to 9 mEq./l.<sup>14</sup>.

Magnesium is needed to prevent tissue irritability, in the production of intracellular enzymes, and in the inter-conversion of ATP and adenosine diphosphate<sup>29-49</sup>. Hypomagnesemia can result in digoxin toxicity in patients undergoing concurrent therapy<sup>5</sup>. Magnesium requirements are usually between 10 and 15 mEq./l.<sup>14-67</sup>.

### Trace Elements

Although Dudrick's<sup>25</sup> original work involved administration of a trace element solution, inclusion of these additives was ignored by many practitioners. A major contributing factor to this situation was the lack of agreement concerning which elements are actually required by the body, and how much of each is needed. The lack of availability of a commercial preparation containing trace elements also complicated matters. The absence of an FDA approved commercial trace element solution has been a hindrance until very recently, although many hospitals compounded their own preparations for in-house use to meet patient need while the drug companies awaited approval to market their formulations<sup>77</sup>.

Intravenous fluids and protein hydrolysate solutions may contain sufficient trace elements to prevent deficiency states from developing in patients who receive them<sup>77</sup>. Crystalline amino acid solutions, however, generally do not contain enough trace elements to maintain a patient for long periods of time. Although whole blood, plasma and plasma fractions have been used for their trace element content in lieu of a specific product, they are expensive and carry with them the danger of hepatitis transmission<sup>77-78</sup>.

Those trace elements which have been identified as important in human nutrition are chromium, cobalt, copper, iron, manganese, molybdenum, selenium, zinc, fluorine, iodide<sup>77</sup>, gallium, nickel, silicon, tin, and vanadium<sup>79</sup>. Recommended daily requirements exist for only 10 of these 15 elements<sup>79</sup>.

The total weight of all trace elements in a 70 kg. male is less than 4 g.<sup>79</sup>, but they play a vital role in enzyme systems, membrane transport, nerve conduction, mitochondrial function, muscle contraction and in protein and nucleic acid stabilization<sup>77-79</sup>.

Parenteral nutrition induced deficiency states have been documented most often for copper and zinc<sup>79-80</sup>. Monitoring trace element levels is extremely difficult due to difficulty in avoiding contamination during sample collection and the lack of availability of the special equipment and instrumentation needed<sup>51-77</sup>.

### Vitamins

Vitamins also play an important role in enzyme systems and have other vital functions, as listed in Table I.

Vitamins are generally classified as either fat or water soluble<sup>81</sup>. Commercial preparations are available to supply all vitamins, although no single formulation includes

folic acid, vitamin B<sub>12</sub> or vitamin K<sup>53</sup>. These are usually administered by intramuscular injection<sup>49</sup>. Problems due to hypervitaminosis syndromes can be encountered if fat soluble vitamins are added to the regimen too frequently<sup>46-49-82</sup>. No such metabolic disruption has been attributed to excessive water soluble vitamin administration.

**TABLE I**  
**Vitamins and Their Functions**

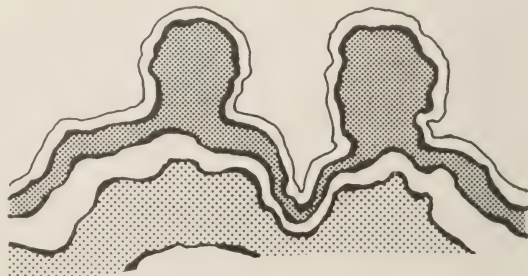
Vitamin	Function
A	Tissue repair, epithelial integrity, retinal pigments
B <sub>1</sub> , B <sub>2</sub> , B <sub>6</sub>	Reparative processes and enzyme systems
C	Synthesis of collagen
D	Normal calcium and phosphorus metabolism
E	Antioxidation of Vitamin A and unsaturated fatty acids
K	Blood coagulation
Folic Acid	Deoxyribonucleic acid base production
B <sub>12</sub>	Normal folic acid metabolism, metabolism of fat, carbohydrate and protein
Niacin	Coenzyme in carbohydrate metabolism

### Possible Complications

Although parenteral nutrition can improve survival rates in patients who, 20 years ago, would have died from complications of their malnutrition, it is a procedure not without hazards. Patients who need this form of nutritional support are often the most susceptible to complications<sup>27</sup>. Problems that may be encouraged arise either from technical, metabolic, or septic difficulties<sup>38</sup>.

Technical complications include those problems encountered with insertion of a central catheter and with thrombophlebitis. Only "perfection of technique"<sup>49</sup> will decrease complications of this type.

The most frequent complication of hyperalimentation is sepsis. Because the catheter is a foreign object, it becomes coated with a fibrin "sleeve" soon after it is inserted. This coating provides a base on which organisms can easily seed and proliferate<sup>49</sup>. These organisms may originate from the insertion site or through the catheter itself due to nonsterile dressings, lines, or solutions, but may also originate from other sources<sup>49</sup>. Rates of catheter induced sepsis vary according to the institution and the degree of care taken to ensure sterility. In the early years of parenteral nutrition therapy, reported septicemia rates ranged from 14 to 93 percent. Organisms responsible included both bacteria and fungi<sup>22</sup>. By 1973, however, more hospitals had developed protocols for the care of these patients, and a



survey of 31 such institutions showed a catheter induces sepsis rate of 7 percent<sup>47-49</sup>. At this time, the Center for Disease Control reported that more than half of these were caused by *Candida*<sup>47</sup>. While these are considered to be the most serious in nature, another study differed in its findings on the cause of sepsis. It maintained that gram-positive cocci, primarily *S. epidermidis* and *S. aureus*, caused more than 50 percent of all cases of sepsis, while fungi of all types, including *Candida*, were the cause of only 29 percent<sup>22</sup>.

Crystalline amino acid solutions do not support the growth of fungi and bacteria as well as do protein hydrolysate solutions<sup>22</sup>. By inducing hypophosphatemia, however, both can promote a compromised immune system<sup>22</sup>. The patients' diseases, malnutrition and/or drug therapy may also decrease their ability to destroy any contaminant organisms<sup>36-37</sup>. This situation makes attention to the preservation of sterility, in all phases of the process, of utmost importance.

Metabolic alterations which can occur during therapy include electrolyte imbalance, fluid overload, osmotic dehydration and essential fatty acid deficiency<sup>1</sup>.

Crystalline amino acid solutions were originally prepared by precipitating the amino acids as the chloride and hydrochloride salts, a situation which occasionally produced a hyperchloremic metabolic acidosis<sup>49</sup>. This problem is less prevalent today since phosphate and acetate are added by some manufacturers as buffers<sup>46</sup>, and others now use acetic acid rather than hydrochloric acid in the preparation<sup>83</sup>.

Deficiency of any of the necessary electrolytes can cause metabolic problems. Inadequate supplementation during PN therapy commonly results in the deficiencies listed in Table II.

**TABLE II**  
**Metabolic Problems due to**  
**Electrolyte Deficiencies**

Electrolyte	Problem
Potassium	Hypokalemia — muscle weakness, lassitude, ileus, polydipsia, cardiac conduction abnormalities.
Phosphorus	Hypophosphatemia — anorexia, bone pain, muscle weakness, mental depression, inability to combat infection, hyperventilation.
Magnesium	Hypomagnesemia — anorexia, nausea, vomiting, muscle twitching, convulsions, delirium.
Calcium	Hypocalcemia — increased excitability of nervous system, convulsions, tetany.

Improper blood glucose regulation may result in hyperosmolar, hyperglycemic, non-ketotic coma<sup>48</sup>, which is accompanied by a mortality rate of 40 percent<sup>49</sup>. If, as occasionally happens for a number of reasons<sup>10-46-49-76</sup>, the pancreas is unable to secrete enough insulin to facilitate the absorption of the dextrose being infused, blood osmolarity rises. This leads to dehydration of the brain, manifested by neurological problems and coma<sup>5-49</sup>.

Hyperammonemia may occur with both protein hydrolysate and crystalline amino acid solutions, but is usually a

problem only in infants<sup>83</sup>. The addition of arginine to the infusion has been used to prevent or correct the condition with some success, leading to speculation that deficiency of this amino acid may impair the conversion of ammonia to urea<sup>16</sup>.

Cholestasis and jaundice are also not uncommon in infants undergoing parenteral nutrition therapy, but are only occasionally reported in adults<sup>83</sup>. No Cause has been established, although folic acid deficiency has been implicated in a few cases<sup>83</sup>. Liver damage is not a permanent result, although in infants, therapy may have to be discontinued to avoid complications<sup>83</sup>.

Azotemia, or a rising blood urea nitrogen (BUN) is often an indication that insufficient calories are being given, and protein is being utilized for energy rather than anabolism<sup>83</sup>.

### Monitoring the Patient

Throughout the initial course of therapy (Phase I) there should be "constant monitoring of a number of variables, both clinical and chemical"<sup>20</sup>. Less monitoring is needed once the patient has been stabilized (Phase II) (Table III).

Monitoring by calculating the nitrogen balance is frequent, although not very accurate. Intake is easily overestimated and output often underestimated<sup>23</sup>. Nitrogen balances, however, can give a rough, but useful estimate of the progress of therapy<sup>6</sup>, as long as one knows whether or not the patient was suffering from malnutrition at the inception of therapy. If the solution is providing enough substrate to maintain normal body cell mass, the malnourished patient will exhibit a positive nitrogen balance, whereas, in identical circumstances, the normal patient will register a balance of zero<sup>23</sup>.

Electrolytes are monitored to assure that deficiency or overdosing of any single entity does not occur<sup>21</sup>.

The BUN is followed, along with the creatinine level, to ensure that calorie support is sufficient<sup>83</sup>. The BUN:creatinine ratio usually ranges from 10:1 to 20:1. A lower value possibly indicates that not enough protein is being given; if it is higher, perhaps too much protein is being administered<sup>21</sup>.

Blood and urine sugar concentrations should be monitored to prevent dehydration<sup>17</sup>.

### calendar

- Sept. 28 — NARD 82nd Annual Convention, Atlanta, Georgia
- Oct. 16 — CECC Program — "Hyperalimentation," Kelly Building
- Oct. 18 — Alumni Association — Oyster Roast
- Oct. 23 — MPhA FALL REGIONAL MEETING
- Nov. 1 — CECC Program — Henry Seidman Mem. Lecture — "Cardiovascular Disease"
- Nov. 9 — MPhA DINNER THEATRE — BURN BRAE — "MAME"
- Jan. 1 — MPhA ARUBA TRIP
- Feb. 26 — CECC Program — "Geriatrics"
- March 17 — CECC Program — "Primary Care" — Kelly Building

**TABLE III**  
**Monitoring the Parenteral Nutrition Patient**

Variable	Suggested Frequency Phase I	Frequency Phase II
Growth Variables		
Body weight	Daily	Daily
Body length (in infants)	Biweekly	Biweekly
Head circumference (in infants)	Weekly	Weekly
Metabolic Variables		
Plasma electrolytes (Na, K, Cl)	Daily	2-3 x weekly
Blood urea nitrogen	3 x weekly	2 x weekly
Plasma osmolality	Daily	2-3 x weekly
Plasma total calcium, inorganic phosphorus, magnesium	3 x weekly	2 x weekly
Blood glucose	Daily	2-3 x weekly
Plasma transaminases, alkaline phosphatase and bilirubin	3 x weekly	1-2 x weekly
Plasma total protein and fractions	2 x weekly	Weekly
Blood acid-base status	Daily	2-3 x weekly
Hemogram	Weekly	Weekly
Blood ammonia	1-2 x weekly	1-2 x weekly
Urine Measurements		
Glucose	4-6 x daily	2 x daily
Specific gravity or osmolality	2-4 x daily	Daily
General Measurements		
Volume of infusate	Daily	Daily
Oral intake (if any)	Daily	Daily
Urinary output	Daily	Daily
	total & each voiding	
Extrarenal losses (if any)	Daily	Daily
Prevention and detection of infection		
Clinical observation (activity, temperature, etc.)	Daily	Daily
WBC count and differential	As indicated	As indicated
Blood culture and culture of infusate and filter	As indicated	As indicated

From: Winters, R. W.: *Evaluation of the Patient in Total Parenteral Nutrition*, Publishing Sciences Group, Inc., Littleton, Mass., p. 48, 1974 (Reprinted with permission)

Liver function is commonly followed. Enzyme levels can be expected to rise slightly in almost all parenteral nutrition patients<sup>41</sup>. These return to normal upon cessation of the infusion<sup>46</sup>. A periodic check of these values is done because in some individuals, liver function becomes abnormal to the extent that the infusion should be discontinued<sup>41</sup>.

Iron levels are followed in anemic patients to monitor improvement in this condition, and also in all patients to verify the reliability of the total iron binding concentration (TIBC), from which transferrin levels are derived. If total body iron levels are depressed, the TIBC will be correspondingly low, and the calculation used will yield a false low transferrin value.

Total lymphocyte counts are followed because levels less than 200/m.<sup>3</sup> indicate a lack of immune competence, which adequate nutritional therapy may correct<sup>84</sup>.

(References available from MPhA Office)

## How to Review Patient Profiles

In recent years, pharmacy education has stressed that future pharmacists should maintain patient medication records . . . patient profiles . . . to improve the patient's health care. Some states have now required by law or regulation that pharmacists *must* maintain profiles.

The American College of Apothecaries has recently released a self-study guide to help the pharmacist learn to *systematically* review profiles in order to detect drug related problems. The guide is entitled *Systematic Approach to Patient Medication Profile Review* and is authored by Quentin M. Smka, Pharm.D., and Timothy H. Self, Pharm.D., Associate Professors of Pharmacy Practice, University of Tennessee Center for the Health Sciences.

This publication is appropriate for use by practicing pharmacists as well as undergraduate pharmacy students. It is a required component in the curricula of over a dozen colleges of pharmacy in the United States.

Dr. D. C. Huffman, Executive Director of the American College of Apothecaries (ACA), says, "This guide shows the pharmacist how to review profiles . . . quickly and with a minimum of effort. It does not assume a terrific clinical competence but, rather, takes the pharmacist and guides him through a logical approach to reviewing patient records. Upon completion of the self-instructional unit, the pharmacist should be able to recognize a great many drug related problems that his patrons may be experiencing."

For the pharmacist interested in obtaining continuing education credit, ACA also has available a correspondence course on *Patient Profile Review* by the same authors. For further information, contact Dr. D. C. Huffman, Executive Director, American College of Apothecaries, 874 Union Avenue, Memphis, Tennessee, 38163.





# Our best friends are our severest critics and our greatest assets.

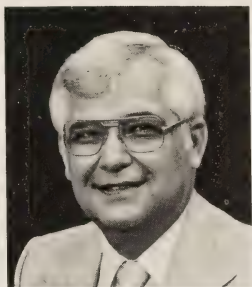
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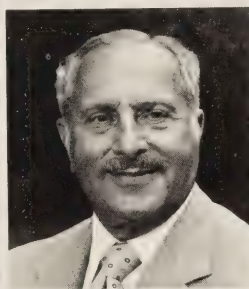
Donald A. Dee, R.Ph., Exec. Sec.  
Minnesota Pharmaceutical Assoc.  
Minneapolis, Minnesota



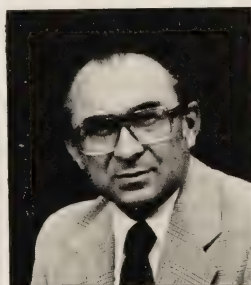
Harold H. Wolf, Ph.D.  
Dean, College of Pharmacy  
University of Utah  
Salt Lake City, Utah



Nelson E. Taylor, R.Ph.  
Community Pharmacist  
Nampa, Idaho



Arthur Koorhan, R.Ph., Div. V.P.  
Pharmacy Operations, Cunningham  
Drug Stores, Detroit, Michigan



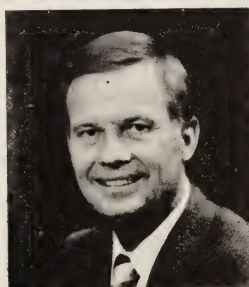
David Zilt, R.Ph., Dir.  
Pharmacy and Central Service,  
University of Wisconsin Hospitals  
Madison, Wisconsin



H. Joseph Schutte, R.Ph.  
Community Pharmacist  
Louisville, Kentucky



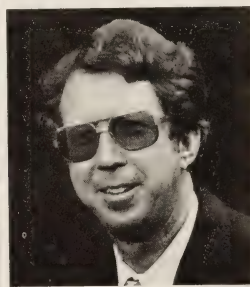
Marianne Ivey, R.Ph.  
Clinical Pharmacist  
University of Washington Hospitals  
Seattle, Washington



Milton H. Miller, R.Ph.  
President, Petty Drug Company, Inc.  
Little Rock, Arkansas



Gary Thudium, R.Ph.  
Community Pharmacist  
Vinton, Iowa



Harland W. Henry, R.Ph.  
Director of Pharmacy  
Memorial Hospital System  
Houston, Texas

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That's what the ten members of our 1980 Pharmacy Consultant Panel provide. Their views on profes-

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Following in the tradition of the CIBA Pharmacy Horizons program, a new continuing education program on hypertension is now available to the profession of pharmacy through CIBA Representatives.

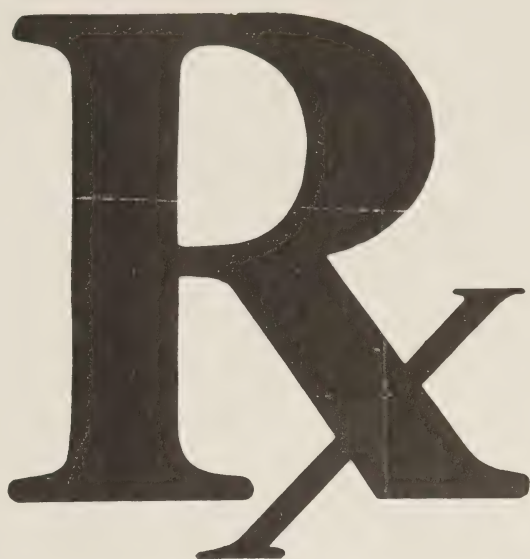
Accredited by the American Council on Pharmaceutical Education, each completed unit provides one or two credit hours, depending on the average study time required.

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# R

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# MEDICAL ASSISTANCE SURVIVAL CHARTS

## or How to Stay in Business Despite Regulations

It is written that the man who cannot see the truth should be led directly to it (at least that should have been written somewhere). And any man who does not see that pharmacists must spend more time on Medicaid prescriptions than a cash transaction need only be shown the many lists we have to check to see if the drug can be dispensed as written. And that's just a start to the paperwork.

Is it a MAC? . . . Is it an anorectic? . . . Is it ineffective? . . . No — it's Superpharmacist trying to decide how to get paid for his work.

In this article we attempt to provide quick check lists to help prevent rejections. Keep it visible and update the changes as they occur — you will save time and money.

### DRUGS SUBJECT TO MAC PAYMENT LIMITS

Most widely used brand name(s) are listed after generic. MAC applies to all brands.

Acetaminophen w/Codeine 30mgm, 60mgm only	Tylenol Codeine #3, #4
Amoxicillin caps 250, 500mgm	many
Ampicillin caps 250, 500mgm, all liquids	many
Chlordiazepoxide 5, 10, 25mgm capsules	Librium
Diphenoxylate w/Atropine	Lomotil
Doxepin 10, 25, 50, 100mgm	Sinequan, Adepin
Erythromycin stearate tablets 250, 500mgm	Erythrocin
Hydrochlorothiazide 25, 50mgm only	Hydrodiuril
Hydralazine 25, 50mgm	Apresaline
Meprobamate 200mgm, 400mgm tablets	Equanil
Methocarbamol 500, 750mgm	Robaxin
Oxyphenbutazone 100mgm	Tandearil
Penicillin G 400MU, 800MU tablets	Pentids
Penicillin VK 250, 500mgm, all liquids	VCillin K, Pen VeeK
Phenylbutazone tablets	Butazolidine, Azolid
Phenylbutazone alka capsules	Butazolidine Alka, Azolid A
Propoxyphene 65mgm capsules	Darvon 65mgm
Propoxyphene Compound 65mgm capsules	Darvon Comp 65mgm
Probenecid 0.5gm tablets	Benemid
Sulfisoxazole 50mgm tablets	Gantrisin
Tetracycline 250, 500mgm liquid	Achromycin, Sumycin

MAC prices are listed on Pharmacy guidelines #18 (Sept. 79) and #23 (March 12, 1980).

### DRUGS ELIGIBLE FOR PAYMENT ONLY WITH DIAGNOSIS OF NARCOLEPSY OR MINIMUM BRAIN DYSFUNCTION WRITTEN BY MD. OR RX.

Adipex-P	Desoxyn	Diethylpropion	Notrol	Obotan	Pondimin	Statobex
Benzedrine	Dexamyl	Eskatrol	Obenil	Phendiamed	Preludin	Tenuate
Biphetamine	Dexedrine	Fastin	Obedrin LA	Phendimetrazine	Presate	Tepanil
Bontril PDM	Dextro-Amphetamine	Ionamin	Obetrol	Phentermine	Reducto	Unitrim
Chlorphentermine	Didrex	Melfiat	Obex TR	Plegine	Sanorex	Voranil

Reference Pharmacy Guideline December, 1979.

### COST PRICE EXCEPTIONS

Medicaid uses wholesale price usually in pints or 100 sizes as basis of cost with exception of MAC drugs and EAC (Estimated Acquisition Cost) Drugs. These are listed with basis of cost and package size used to determine cost. (D-Direct cost, W-Wholesale cost.) Reference Pharmacy Guideline #4 — April 17, 1978.

Aldoril 25mgm	D-100	Indocin 50mgm	D-100
Aldomet 250mgm	D-1000	Lanoxin .25mgm	W-1000
Aldomet 500mgm	D-100	Lasix 40mgm	W-500
Amcil 250, 500mgm	D-100	Librium 5, 10mgm	W-500
Benadryl 25, 50mgm	D-100	Lomotil	W-500
Benemid	D-100	Motrin 300mgm	D-60
Cleocin 150mgm	D-16	Motrin 400mgm	D-500
Cyclopar 250, 500mgm	D-100	Mycolog Cr & Oint.	D
Darvocet N 100	W-500	Norlestrin	D
Darvon Comp 65	W-500	Omnipen 250, 500mgm	D-100
Darvon 65	W-500	Omnipen Liquid	D
Deltasone 5mgm	D-100	Orinase	D-50
Diabinese 250mgm	W-250	Ovral	D
Dilantin 100mgm	D-1000	Panmycin 250mgm	D-100
Diupres 250, 500mgm	D-100	PenVeeK 250, 500mgm	D-100
Diruil 250, 500mgm	D-100	Phenergan Expect	D-pint
Donnatal	W-1000	Phenergan Exp Cod	D-pint

Elavil 25, 50mgm	D-100	Phenergan VC	D-pint
E-mycin	D-100	Phenergan VC Cod	D-pint
Equagesic	D-50	Phenobarb (PD) 15, 30mgm	D-1000
Equanil 200, 400mgm	D-100	Phenobarb 15, 30mgm	W-1000
Erypar 250mgm	D-100	Provera 10mgm	D-25
Erythrocin 250, 500	D-100	Serax 15, 30mgm	D-100
Erythromycin Base 250	D-100	Sumycin 250mgm	D-100
Hydrodiuril 50mgm	D-100	Theragran Hematinic	D-100
Hydropres 50mgm	D-100	Tolinase	D-200
Inderal 10mgm	W-1000	Triavil (all)	D-100
Indocin 25mgm	D-1000	Valium (all)	W-500

#### INEFFECTIVE DRUGS — NOT ELIGIBLE FOR MEDICAID PAYMENT

Ananase	Biozyme	Isordil Pb	Peritrate Pb
Achrostatin	Butazolidine alka	Lidosporin	Probanthine Dartal
Aerosporin	Chymoral	Marax	Roniacol
Alevaire	Carbitral	Milttrate	Synalgos
Arlidin	Combid	Mysteclin F	Synalgos DC
Avazyme	Cyclospasmol	Otobiotic	Terrastatin
Azotrex	Dechlostatin	Oxaine M	Tigan Supp.
Axogantanol	Deaner 25, 100, 250	Orenzyme	Trocinate
Benylin Exp.	Deprol	Oxoralen	Vasodilan
Betadine Vag. Jel.	Eskatrol	Paveril	Wyandoid HC Supp.
			Zactirin

Above are only the most widely used of the hundreds of drugs ruled ineffective. Use pharmacy Bulletin July 1, 1980 and add to margins any other drugs for which you might expect to have prescriptions. Ban on use of these items extends to generic forms and includes all dosage forms and strengths unless specified. Some drugs may be removed from this list — several changes were made from original guidelines.

#### ASSIGNED NDC NUMBERS

Syringes & Needles	996-1111-00
Supplies (under \$10)	996-0000-00
Compounded	998-0000-00
No Available NDC	999-0000-00

#### MAC OVERRIDE

Physicians must specify "medically necessary" in his own handwriting. Pharmacist must "X" the block in lower left corner of claim.

#### BASIS OF PAYMENT

You must bill the State the same price you would charge your cash customer before any special discounts.

Reimbursement will be lower of that number or cost plus \$2.95. Cost is determined as lower of MAC, EAC, or wholesale list price.

If the usual and customary charge is \$40.00 or over you must call for pre-authorization. You can request the right to cut quantities.

Baltimore area: 383-7716 Others: 1-800-492-6008

Syringes and needles are covered to any amount subject to preauthorization procedure.

#### PHARMACY TELEPHONE INFORMATION LIST

##### Medical Assistance Program (Medicaid)

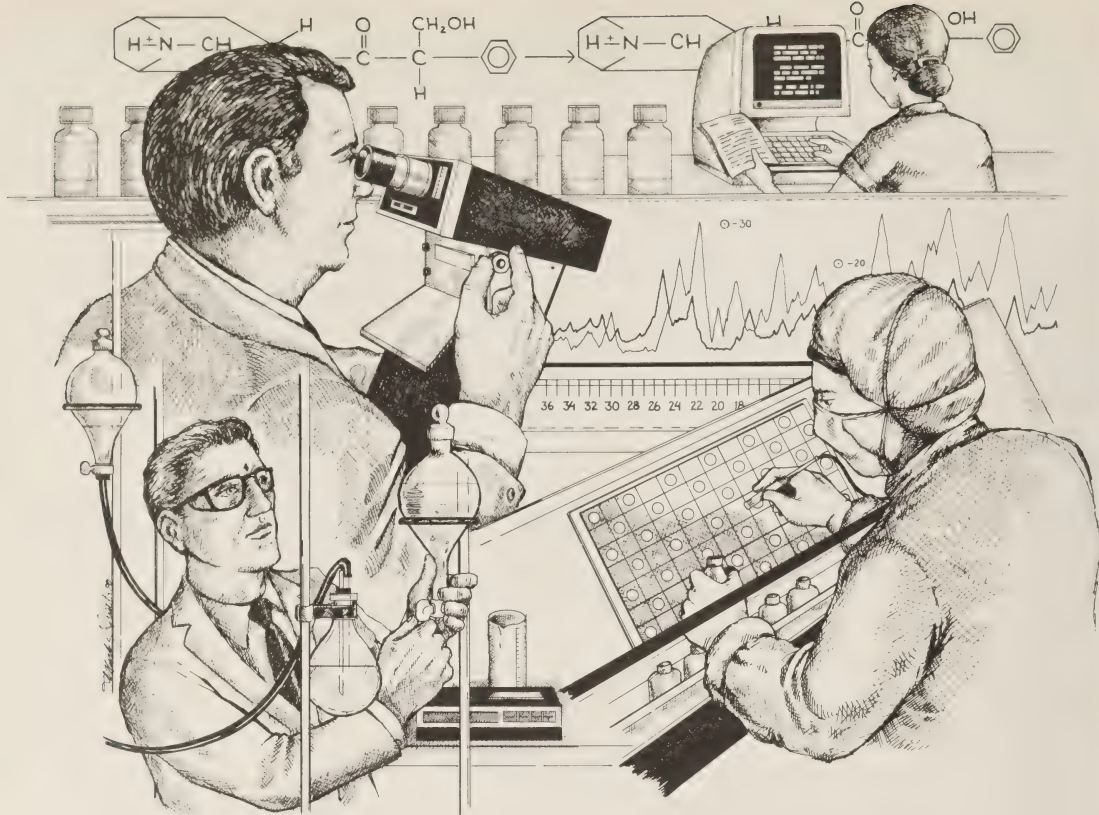
1. Imprinter Information — Operations Administration.....	383-6898
2. Medical Supplies and Equipment Payment Information — Operations Administration.....	383-2954
3. Medical Supplies and Equipment Policy Information — Policy Administration.....	383-2658
4. Pharmacy Policy Information — Policy Administration.....	383-2658
5. Preauthorization — Prescriptions over \$40.00 in Balto. City.....	383-7716-17
Outside Local Calling Area.....	1-800-492-6008
6. Rejected Prescription Claims Information — Operations Administration.....	383-6893
7. Provider Payment Information — Operations Administration.....	383-6481
8. Provider Number Information — Operations Administration.....	383-6898
— New Providers	
— Change of Add, name, etc.	
9. Program Abuse — Reporting — Compliance Administration.....	383-7377, 6376
10. Requisition of Prescription and Supply Forms — Operations Administration — Balto. City.....	383-2067
All Counties.....	local health depts.

##### Pharmacy Assistance Program

Information Concerning Pharmacy Assistance Program.....	363-2567
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##### Division of Drug Control

Information Concerning Maryland Pharmacy Law.....	383-2729
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## INCREASE YOUR CASH FLOW POSITION

## ... LOWER YOUR THIRD PARTY REJECTION RATE

As a compliment to the Third Party chart published in this issue of the *Maryland Pharmacist*, we are adding some of the idiosyncracies of third party programs which, if kept in mind, will provide more prompt and complete payments.

**Medimet** — requires your telephone number as ID at this time. They will pro-rate lower payment if you dispense over 34 day supply in error. GE Pensioners — fill in U & C selling price under "total price", deduct payment of \$2.00 or more by patient to get net of not more than \$5.00 expected from Medimet.

**PDI** — top line of Universal Form will be taken as your customary selling price. NOT YOUR COST. Add 25¢ processing fee on next line.

**ESSKAY** — must itemize 3 part transmittal and send 2 copies with claim.

**TRAVELERS** — must send transmittal

**GROUP** — if you use Universal form instead of their claim form you fill in name of drug dispensed somewhere on form.

**PAID** — has special plan number. Be sure to fill in date. High rejection rate.

**PCS** — same problems as PAID.

**BLUE CROSS** — has special Plan number.

**1199, PPS** — must use special physician completed forms provided to patient.

Most rejections are due to lack of clear store identification number (most local plans except Blue Cross use medicaid number), and due to incomplete or inaccurate information filled in blocks provided.

## THIRD PARTY PAYMENT SCHEDULE

**APS** — process claims daily — mail checks twice a month.

**BLUE CROSS** — process pharmacy claims daily.

**CHESAPEAKE HEALTH PLAN** — Pharmacy claims processed daily. Monthly cut off for check processing: 8th & 23rd. Check issue dates: 15th & last day of each month.

**ESSKAY** — Processes pharmacy claims daily.

**IRON WORKERS #16** — pharmacy claims processed every 15th of every month (they are usually one month behind).

**MEDICAID** — process pharmacy claims every Thursday.

**METROPOLITAN** — pharmacy claims processed daily. Payment statements: Friday of each week. Mailed Monday of the following week.

**1199 NATIONAL BENEFIT PLAN** — pharmacy claims processed daily. The system they use is alphabetical rotation from A through Z. The cycles take approximately 3 to 6 weeks depending on volume.

**PAID PRESCRIPTIONS** — checks in payment of pharmacy claims are mailed twice monthly, on the second and fourth Thursday of the month.

**PHARMACEUTICAL CARD SYSTEM** — pharmacy claims processed daily. Every other Wednesday is cycle closing. Payments are made every two weeks.

**PSF** — processed weekly — checks issued weekly.

**PRESCRIPTION DRUGS, INC.** — processed daily. Paid: monthly by the 15th.



# DISTRICT PHOTO INC

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Beltsville, Maryland 20705  
In Washington, 937-5300  
In Baltimore, 792-7740

# FOR YOUR INFORMATION — A THIRD PARTY PARTY COMMITTEE REPRESENTING Names and Addresses for PAID and PCS Plans

## PAID PLANS IN MARYLAND

**Hochschild-Kohn**  
1726 Whitehead Road  
Baltimore, Maryland 21207

**The Great A & P Tea Company  
and P P G Industries**  
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1285 Avenue of the Americas  
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**Boeing-Vertol Division**  
c/o King County Medical  
1800 Terry Avenue  
Seattle, Washington 98111

**Michelin Tire Corporation**  
P.O. Box 2846  
Greenville, South Carolina 29602

**TWUA Health Plan**  
99 University Place  
New York, New York 10003

**ACME Markets**  
124 North 154 Street  
Philadelphia, Pennsylvania 19101

**Worthington Pump Corporation and  
Milk Driver and Dairy Employees Soc. Insurance Fund**  
c/o Travelers Insurance Company  
One Tower Square  
Hartford, Connecticut 06115

**IBEW Local 26**  
6220 Kansas Avenue N.E.  
Washington, D.C. 20011

**Provident Indemnity**  
2500 De Kalb Pike  
Norristown, Pennsylvania 19404

**Pressmen Welfare Fund**  
c/o Connecticut General Life Insurance Company  
Claims Department A29  
Hartford, Connecticut 06120

**Wilmington Public Schools—Group Terminated with PAID**

**Carpenters Union—Group Terminated with PAID**

## CONTACTS FOR PCS ADMINISTERED POOL PLANS MARYLAND

**Plan #386, \$2.50—AMERICAN NATIONAL INSURANCE COMPANY, D. D. Lagrone, Vice President, One Moody Plaza, Galveston, Texas 77550 (713) 763-4661**

**Plan #207, \$2.45—AMERICAN STATES LIFE INSURANCE CO., Byron E. Bailey, C.L.U., Asst. V.P., 500 North Meridian Street, Indianapolis, Indiana 46206 (317) 262-6414**

**Plan #240, \$2.55—THE BANKERS LIFE COMPANY, Priscilla Miller, Asst. Supervisor, Group Div., 711 High Street, Des Moines, Iowa 50307 (515) 247-5111**

**Plan #165, \$2.55—B.E.S.T.—BENEFICIAL EMPLOYEES SECURITY TRUSTS, Pacific Mutual Life Ins. Co., Gerald Griswold, Associate Actuary, 700 Newport Center Drive, Newport Beach, California 92663 (714) 640-3075**

**Plans #196 and #315, \$2.75—THE DOMINION LIFE ASSURANCE COMPANY, Paul Duxbury, ASA, Actuarial Assistant, 111 Westmount Road, South, Waterloo, Ontario, CANADA N2J 4C6 (519) 744-4471**

**Plan #272, \$2.55—EMPLOYERS INSURANCE OF WAUSAU, Norman F. Koch, Group Research Director, 2000 Westwood Drive, Wausau, Wisconsin 54401 (715) 842-6216**

**Plans #300 and #310, \$2.55—EQUI-GROUP PLUS, Equitable Life Assurance Society of the U.S., Anthony Kunat, 24E, 1285 Avenue of the Americas, New York, New York 10019 (212) 554-2989**

**Plans #213 and #256, \$2.55—GREAT-WEST LIFE ASSURANCE COMPANY, Hal Ryckman, Supervisor, Policy Benefits, 60 Osborne Street, North, Winnipeg, Manitoba, CANADA A3C 3A5 (204) 946-1190**

**Plan #387, \$2.85 438—HEALTH INSURANCE ADMINISTRATION, INC. Norman Torrison, President, 1400 Renaissance Drive, Suite 400, Park Ridge, Illinois 60068 (312) 827-9640**

**Plan #100, \$2.55—LINCOLN NATIONAL LIFE INSURANCE COMPANY, William Bogardus, Second V.P., 1301 So. Harrison Street, Fort Wayne, Indiana 46801 (219) 742-5421**

**Plan #203, \$2.85 308—MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY, Keith Demeron, V.P. Marketing, 1295 State Street, Springfield, Massachusetts 01111 (413) 788-8411**

**Plan #191, \$2.60—NATION WIDE PRESCRIPTION POOL, Nationwide Insurance Company, Dave Handel, Group Underwriting Manager, Nationwide Plaza, Columbus, Ohio 43215 (614) 227-6060**

**Plan #232, \$2.65—OASIS TRUST, Connecticut General Life Insurance Company, Canday Mascetti, Claims A-29, Hartford, Connecticut 06115 (203) 726-7336**

**Plan #134, \$2.55—PACIFIC MUTUAL LIFE INSURANCE COMPANY POOL PLAN (PIP), Andrea Gabbard, Supervisor, Group Administration, 700 Newport Center Drive, Newport Beach, California (714) 640-3075**

**Plan #219, \$2.55—SAN JACINTO CORPORATION, American Heritage Life Insurance Company, Don Smith, Assistant Vice-President, Eleven E. Forsyth Street, Jacksonville, Florida 32202 (904) 354-1776**

**Plan #329, \$2.20 429—STATE MUTUAL LIFE ASSURANCE COMPANY, Paul Brough, Senior Group Underwriter, 440 Lincoln Street, Worcester, Massachusetts 01605 (617) 852-1000**

**Plan #200, \$2.60—THE TRAVELERS INSURANCE COMPANIES, Eugene J. Ziurys, Jr., Supr. of Group 5MM, One Tower Square, Hartford, Connecticut 06115 (203) 277-2231**

**Plan #184—AID BENEFIT PLANS, INC., Kenneth S. MacKenzie, President, 25200 Mission Boulevard, Hayward, CA 94544 415-886-2004**

**Plan #239—AMERICAN COMMUNITY MUTUAL LIFE INSURANCE, JoAnn Roberts, Group Department, 409 Plymouth Road, Plymouth, MI 48170 313-453-2000**

**Plan #219—AMERICAN HERITAGE LIFE INSURANCE COMPANY, Rose Mary Dwyer, Asst. Mgr., Grp. Admin., 11 East Forsyth Street, Jacksonville, FL 32202 904-354-1776**

**Plan #417—AMERICAN HERITAGE LIFE INSURANCE COMPANY, Donald Smith, V.P., Grp., Underwriting, 11 East Forsyth Street, Jacksonville, FL 32202 904-354-1776**

**Plan #386—AMERICAN NATIONAL INSURANCE COMPANY, D. D. Lagrone, Vice President, One Moody Plaza, Galveston, TX 77550 713-763-4661**

**Plans #163 and #384—BENEFICIAL NATIONAL LIFE INSURANCE COMPANY, Gerard W. Michels, Manager, 2 Park Avenue, New York, NY 10016 212-889-4141**

**Plans #269 and #376 and #304, \$2.77—CONNECTICUT GENERAL LIFE INSURANCE COMPANY, Candy Mascetti, Claims A-29, Hartford, CT 06115 203-243-8811**

**Plan #216, \$2.65—CONFEDERATION LIFE INSURANCE COMPANY, J. M. Duff, Mgr., Group Issue, P.O. Box 146, Niagara Square Station, Buffalo, NY 14202 416-967-8183**

**Plans #187 and #320 (Spanish)—CROWN LIFE INSURANCE COMPANY, Janet Lynch, Asst. Supv., Grp. Actuarial Dept., 120 Bloor Street East, Toronto, Ontario, CAN M4W 1B8 416-928-4503**

**Plans #196 and #315—DOMINION LIFE ASSURANCE COMPANY, John Have, Actuarial Officer, 111 Westmount Road South, Waterloo, Ontario, CAN N2J 406 519-744-4471**

**Plan #391—DURHAM LIFE INSURANCE COMPANY, J. G. Teel, Group Underwriting, 2610 Wycliff Road, Raleigh, NC 27611 919-782-6110**

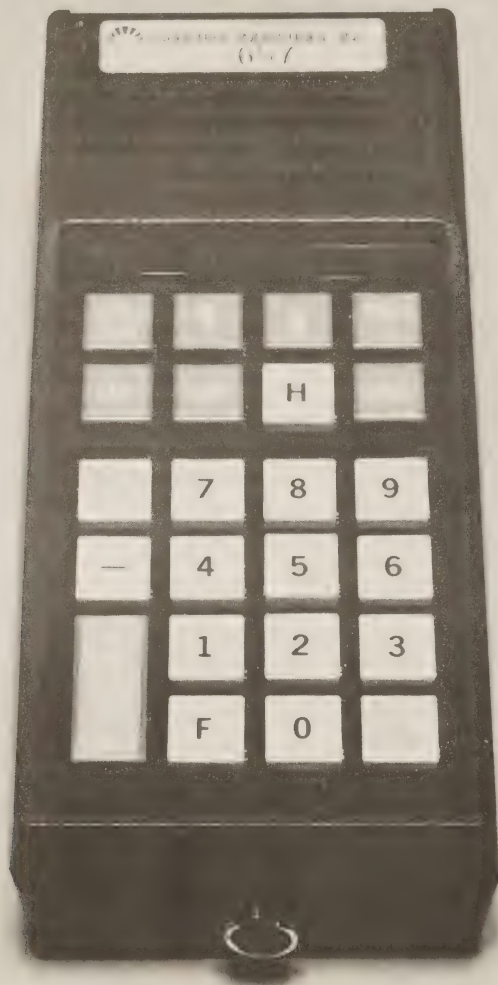
**Plan #344—EQUITABLE LIFE ASSURANCE SOCIETY OF THE U.S., Anthony Kunat, 24E, 1285 Avenue of the Americas, New York, NY 10019 212-554-2147**



- Plan #246**—FOUNDATION LIFE INSURANCE COMPANY OF AMERICA, Carol Muessen, Asst. V.P., 331 Main Street, Chatham, NJ 07928 201-635-2655
- Plans #215 and #336**—GENERAL AMERICAN LIFE INSURANCE COMPANY, Barbara Stepney, Sr. Grp. Underwriter, P.O. Box 396, St. Louis, MO 63166 314-231-1700
- Plans #213 and #256**—GREAT-WEST LIFE ASSURANCE COMPANY, Hal Ryckman, Supvr. Policy Benefits, Administration, 60 Osborne Street, North Winnipeg, Manitoba, CAN R3C 3A5 204-946-1190
- Plan #436**—HARTFORD LIFE & ACCIDENT INSURANCE COMPANY, Bill Knarr, Area Dir. of Underwriting, Hartford Plaza, Hartford, CT 06115 203-547-5257
- Plans #380 and #381**—HEALTH MAINTENANCE NETWORK OF SOUTHERN CALIFORNIA, Ken Smith, P.O. Box 9103, Van Nuys, CA 91409 213-703-3005
- Plan #377**—HEALTH AND WELFARE PLANS, Joe Spieser, President, 15160 West Eight Mile Road, Suite 206, Detroit, MI 48237 313-967-1640
- Plan #332**—INDEPENDENT BENEFIT PLANS, INC., W. B. Davenport, President, Independent Square, P.O. Box 1976, Beech Grove, IN 46107 317-787-5373
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- Plan #172**—LINCOLN NATIONAL LIFE INSURANCE COMPANY, Dave Simon, 1301 South Harrison, Fort Wayne, IN 46801 219-427-4288
- Plan #406**—MEDICAL SERVICE CORPORATION OF EASTERN WASHINGTON, John Sandberg, Director, Mktg., N. 1207 Division Street, Spokane, WA 99220 509-455-5342
- Plan #402**—MIDLAND MUTUAL LIFE INSURANCE COMPANY, Thomas F. Stein, Grp. Ins. Mgr., 250 East Broad Street, Columbus, OH 43215 614-228-2001
- Plans #328 and #326 (Spanish)**—NEW ENGLAND MUTUAL LIFE INSURANCE COMPANY, Paul H. Duff, 2nd V.P., 501 Boylston Street, Boston, MA 02117 617-266-3700
- Plan #134**—PACIFIC MUTUAL LIFE INSURANCE COMPANY, Andrea Gabbard, Supvr. CIC, 700 Newport Center Drive, P.O. Box 9000, Newport Beach, CA 92660 714-640-3765
- Plan #164**—PENN GENERAL AGENCIES OF MICHIGAN, INC., Stephen R. Mandell, CLU, 4000 Town Center, Suite 800, P.O. Box 5007, Southfield, MI 48037 313-353-5800
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- Plan #324**—PHOENIX MUTUAL LIFE INSURANCE COMPANY, Richard E. Casper, Grp. Underwriter, One American Row, Hartford, CT 06115 203-278-1212
- Plan #081**—PROVIDENT LIFE AND ACCIDENT COMPANY, Ted L. Dunn, V.P., Fountain Square, Chattanooga, TN 37402 615-755-1011
- Plan #401**—PM LIFE INSURANCE COMPANY, Vince Venske, Secretary/Treasurer, 111 Business Park Drive, Westchester Business Park, Armonk, NY 10504 914-273-9303
- Plan #431**—SOUTHEASTERN LUMBER MANUFACTURERS ASSOCIATION, c/o Ronald K. Bridges, Hewitt, Coleman & Associates, P.O. Box 3665, Greenville, SC 29608 803-242-4350
- Plan #188**—TOTAL GROUP SERVICES, INC., George Gale, III, President, 500 Cascade West Parkway, Grand Rapids, MI 49501 616-942-9780
- Plans #339, and #200**—TRAVELERS INSURANCE COMPANIES, Eugene Ziurys, Jr., Supt., Group SMS, One Tower Square, Hartford, CT 06115 203-277-2231
- Plans #331 and #334**—UNITED BENEFIT LIFE INSURANCE COMPANY, Rod Reimer, Asst. Chief Underwriter, Dodge at 33rd Street, Omaha, NE 68131 402-342-7600
- Plans #302 and #307**—WEA INSURANCE TRUST, C. Robert Brower, Director of Marketing, P.O. Box 7338, Madison, WI 53107 608-274-7400
- Plan #374**—WESTERN OHIO HEALTH CARE PLAN, Larry Siedenfeld, Dir. of Internal Ops., 40 South Perry Street, Suite 130, Dayton, OH 45402 513-223-3180
- Plan #383**—WOODMEN ACCIDENT AND LIFE COMPANY, Robert G. Kendall, Chief Grp. Underwriter, P.O. Box 82288, Lincoln, NE 68501 402-432-2881
- Plan #309, \$2.55**—EASTALCO ALUMINUM CO., Prudential Insurance Company of America Diana Kennedy, Senior Group Underwriter, Prudential Corporate Office, Prudential Plaza, Newark, NJ 07101
- Plan #443**—NATIONAL RETIREMENT INSURANCE COMPANY, Mr. Donald Udkie, V.P., Group Division, 30680 Montpelier, Madison Heights, MI 48071 313-585-7900
- Plan #430**—MUTUAL LIFE INSURANCE COMPANY OF NEW YORK (MONY), Robert Church, Dir. of New Business Services, 1740 Broadway, New York, NY 10019 212-586-4000
- Plan #424**—WASHINGTON NATIONAL INSURANCE COMPANY, Mr. William DeWaal, 3rd V.P., 1630 Chicago Avenue, Evanston, IL 60201 312-866-3422
- Plan #152, \$2.65**—AFL-CIO, Union Labor Life Insurance Company, Andrew J. Criscuolo, Grp. Underwriting Mgr., 850 Third Avenue, New York, NY 10022 212-752-5200
- Plan #097, \$1.95**—ARMOUR & COMPANY, Geri Claire, Manager Employees Benefits 6991 East Camelback, Phoenix, Arizona 85251 (602) 248-5632
- Plan #412, \$2.85**—BRETHREN IN CHRIST CHURCH, INC., Ray M. Musser, Treasurer 533 North Laurel Avenue, Ontario, CA 91762 714-984-1238
- Plan #091, \$2.55**—COASTAL MOBILE MODULAR CORP., Lincoln National Life Insurance Company William Bogardus, Second Vice President, 1031 So. Harrison Street, Fort Wayne, IN 46801 219-742-5421
- Plan #115, \$2.55**—B. F. GOODRICH & COMPANY, Jon Baker, Employee Benefits Administration 500 South Main Street, Akron, OH 44318 216-379-3039
- Plan #378, \$2.55**—GREATER MEDIA, INC., Prudential Insurance Company of America
- Plan #222, \$2.50**—GREYHOUND FOOD MANAGEMENT, Jack Toon, Insurance and Safety Manager Greyhound Tower, Building G-2, Phoenix, AZ 85077 602-248-6576
- Plan #094, \$2.55**—IRON WORKERS, Lincoln National Life Insurance Company
- Plan #091, \$2.55**—JACOBS TRANSFER, Lincoln National Life Insurance Company
- Plan #020, \$2.65**—MARS SUPER MARKETS, Connecticut General Life Insurance Company Candy Mascetti, Claims A-29, Hartford, CT 06115 203-726-7336
- Plan #252, \$2.65**—MARYLAND SHIPBUILDING, Connecticut General Life Insurance Company
- Plan #020, \$2.65**—MCCLUNG-LOGAN EQUIPMENT, Connecticut General Life Insurance Company
- Plan #104, \$2.45**—RATH PACKING, Jack H. Fliehler, Insurance Manager P.O. Box #330, Waterloo, IA 50704 319-235-8452
- Plan #181 and #242**—RELiance ELECTRIC, Ronald H. Stolle, Claims Administrator 29325 Chagrin Blvd., Cleveland, OH 44122 216-266-7000
- Plan #112, \$2.60**—ROYSTON DISTRIBUTORS, Liberty Life Assurance Company William Diederling, Jr., Examiner, Health Claims 175 Berkeley Street, Boston, MA 02117 617-357-9500
- Plan #083, \$2.55**—SHULT MOBILE HOMES CORPORATION, Equitable Life Assurance Society Anthony Kunat, 24E, 1285 Avenue of the Americas, New York, NY 10019 212-554-2989
- Plan #195, \$2.60**—SUNSHINE BISCUITS, Liberty Life Assurance Company
- Plan #216, \$2.55**—VOLVO CORPORATION OF AMERICA, Confederation Life Insurance Company, J. M. Duff, Manager, Group Issue, P.O. Box #146, Niagara Square Station, Buffalo, NY 14202 416-967-8176
- Plan #361, \$2.10**—WASHINGTON WHOLESALE, LOCAL 593 HEALTH & WELFARE TRUST Phyllis Denham, Weaver Associates, Inc. 2021 L Street N.W., Third Floor, Washington, DC 20036 202-457-5650
- Plan #105 and #397**—WILSON & COMPANY, W. H. Zeigler, Manager, Employee Benefits 4545 No. Lincoln Blvd., Oklahoma City, OK 73105 405-521-1911
- Plan #081, \$2.55**—CROWELL & BAKER CONSTRUCTION COMPANY, INC., Provident Life & Accident Co. LeBron Griffith, Fountain Square, Chattanooga, TN 37402 615-755-1011
- Plan #422, \$2.65**—UNITED FOOD AND COMMERCIAL WORKERS INTERNATIONAL UNION AFL-CIO & CLC (UFCW) Ronald D. Wackett, Director, UFCW Benefit Office 1775 K Street, N.W., Washington, D.C. 20006 202-223-3111
- Plan #430, \$2.65**—CAPITOL CADILLAC COMPANY, Robert Church, Dir. of New Business Services, Mutual Life Insurance Company of New York, 1740 Broadway, New York, NY 10019 212-586-4000
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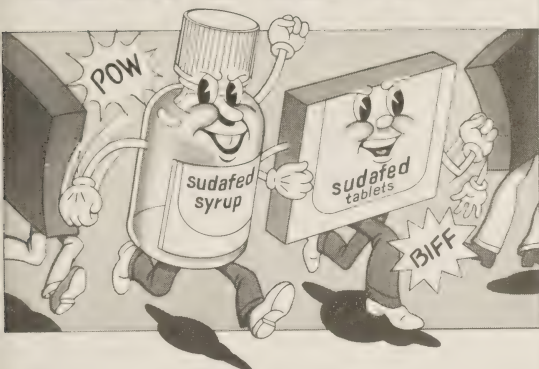


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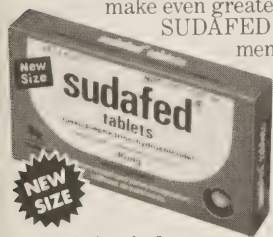
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\*Source: IMS America; based on drugstore sales of OTC Sudafed 24's and 100's.



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## MORRIS COOPER HONORED BY HISTORY INSTITUTE



Morris Cooper, R.Ph., of Baltimore has been awarded its Certificate of Commendation by the American Institute of the History of Pharmacy of Madison, Wisconsin. The Certificates are awarded to individuals and organizations that make significant and considerable contributions to the historical and cultural aspects of pharmacy. Pharmacist Cooper was cited for his work as Curator of the B. Olive Cole Museum of the Maryland Pharmaceutical Association and for his promotion of the Museum to the public and the profession.



Shown here working on a display case, Morris often comes to the B. Olive Cole Museum housed in the Kelly Building to ensure that displays are clean and well-kept. He and other interested pharmacists and pharmacy students are working to complete the display of historical objects in the building before the Association's Centennial under the leadership of the Association's Centennial Celebration Committee.

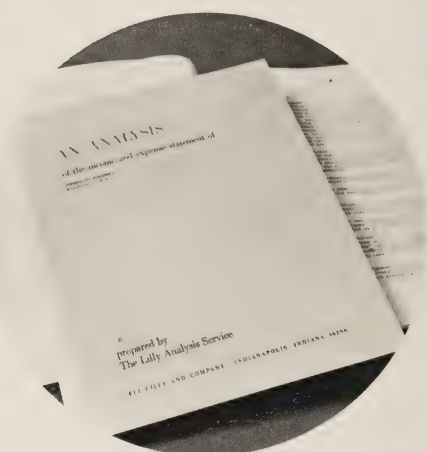
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An annual summary of financial operations of community pharmacies, arranged to allow comparison with any pharmacy's figures.

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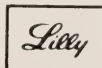


## **Lilly Analysis Service**

A detailed analysis available to individual pharmacy owners, with suggestions for improvements where indicated.

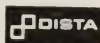
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**Pennsylvania only** 800-462-4966  
**Philadelphia only** LO7-6969

## INTERSTATE COMMERCE COMMISSION

Federal agency. Accepts complaints from consumers on interstate moving of household goods, rail and bus passenger problems, and questions on carrier rates. Also provides information to independent truckers on equipment leasing and ways to enter the independent trucking business.

**Continental U.S.** 800-424-9312  
**Washington, D.C. only** 275-7301

## FEDERAL ELECTION COMMISSION

Federal agency. Provides information on fundraising regulations that apply to running for federal office. Public Records Division provides materials for requesting financial records of federal candidates.

**Continental U.S.** 800-424-9530  
**Washington, D.C. only** 523-4068

## VETERAN'S INFORMATION

Operated by the Veteran's Administration. Provides information to veterans and their dependents about a range of benefits including: GI loans, education, and insurance; disability compensation; medical care; dental treatment; and employment.

**Check U.S. government-Veteran's Administration telephone listing for your area or call toll-free directory assistance for toll-free number in your state** 800-555-1212

## CANCER INFORMATION SERVICE

Funded by National Cancer Institute, HEW. Provides information about all aspects of cancer to the general public, cancer patients and their families. All calls confidential. There are local centers in 23 states, others served by the national office.

**For Cancer Information Service toll-free number in your area call toll-free directory assistance 800-555-1212 or call national office at 800-638-6694 (in Maryland call 800-492-6600)**

## FAIR HOUSING AND EQUAL OPPORTUNITY HOTLINE

Operated by HUD. Accepts complaints on discrimination in housing. Complaints which are based on race, color, religion, sex, or national origin.

**Continental U.S.** 800-424-8590  
**Washington, D.C. only** 755-5490

## CONSUMER PRODUCT SAFETY COMMISSION

Federal agency. Receives reports on injuries/deaths relating to hazardous manufactured products and assists consumers in evaluating safety of products on sale to the public.

**Continental U.S.** 800-638-2666  
**Maryland only** 800-492-2937

## PEACE CORPS/VISTA

Federal agency. Provides information about volunteer opportunities within these ACTION agencies which perform foreign and domestic social service functions.

**Continental U.S.** 800-424-8580  
**Washington, D.C. only** 254-7346  
 ext. 26 and 38

## OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

Federal agency. Provides information to workers about OSHA. Accepts reports from workers about work-related accidents or dangerous working conditions.

**Check U.S. government telephone listing for your area or call toll-free directory assistance 800-555-1212 for regional OSHA toll-free numbers serving 30 states.**

## NATIONAL RUNAWAY HOTLINE

Funded by HEW. Provides advisory services to runaways and parents on a 24-hour, confidential, free basis.

**Continental U.S.** 800-621-4000  
**Illinois only** 800-972-6004

## EDUCATIONAL GRANTS HOTLINE

Operated by HEW's Office of Education. Provides general information about the Basic Education Grants program, which offers financial aid for post-high school education to students who qualify on a financial need basis.

**Continental U.S.** 800-638-6700  
**For application processing:**  
**Continental U.S.** 800-553-6350

## FEDERAL CRIME INSURANCE HOTLINE

Funded by HUD. Disseminates information and applications regarding federal low-cost commercial and residential crime insurance (available in over 20 states and the District of Columbia).

**Continental U.S.** 800-638-8780  
**Washington, D.C. only** 652-2637  
**Maryland only (call collect)** 301-652-2637

## COMMODITY FUTURES TRADING COMMISSION

Federal agency. Answers consumer inquiries concerning commodity futures or commodity options. Disseminates information regarding commodity options and firms which are registered to sell these options.

**Washington, D.C. residents** 254-8630  
**States west of the Mississippi River (except California)** 800-227-4428  
**States east of the Mississippi River and California** 800-424-9838

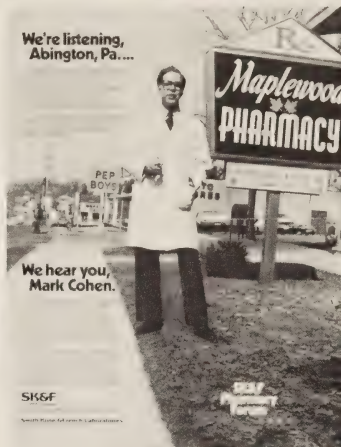
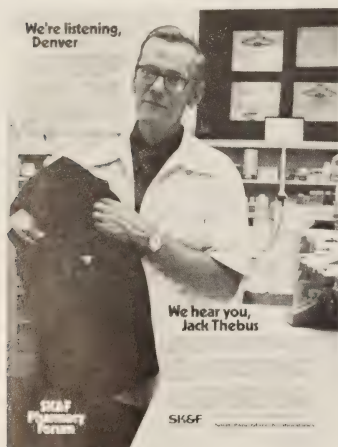
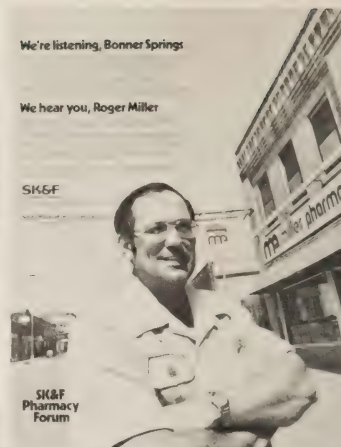
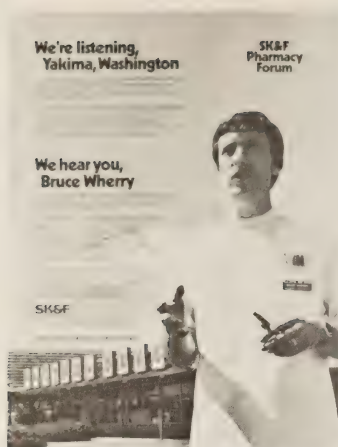
## FEDERAL TAX INFORMATION

Operated by the Internal Revenue Service. Provides assistance on federal tax questions.

**Check U.S. government telephone listing for your area or call toll-free directory assistance** 800-555-1212

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Since 1978, SK&F messages in state pharmacy journals have featured community pharmacists from Jacksonville to Yakima, from Albuquerque to Yadkinville—all talking about various problems or concerns that now confront them in their professional practices.

These concerns ranged from security against crimes to meeting continuing education requirements. Some talked about the need for quality generics, product liability protection and more product information. Another was interested in better ways to train and motivate employees.

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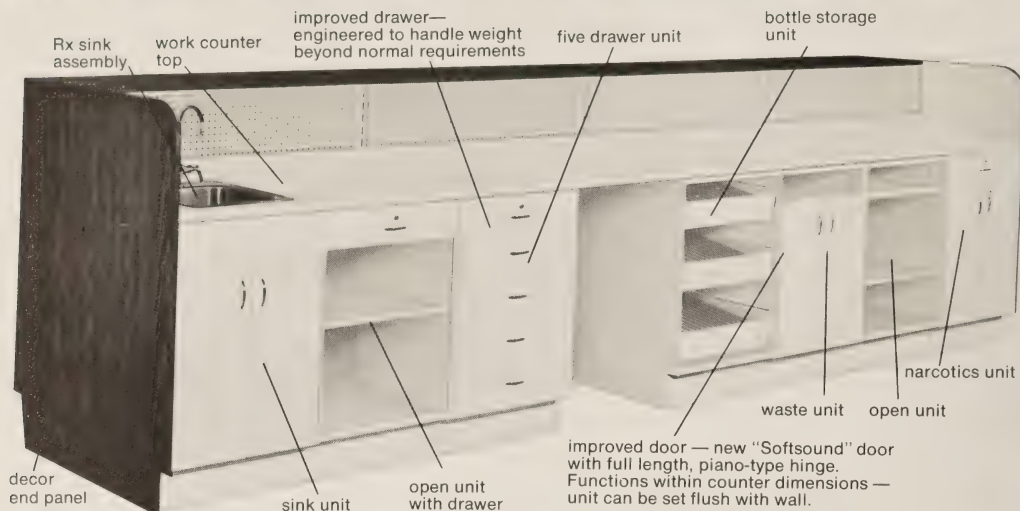
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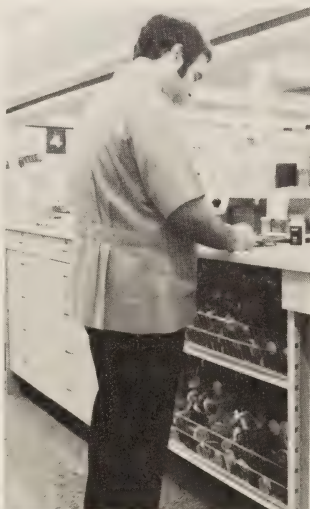
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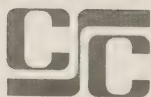
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Ronald Telack (left) receives the Past President's Award from MSHS President Patrick Birmingham. The Society's Seminar was held June 20-22, in Ocean City, Maryland.



MSHP Past President Ronald Telack was the recipient of the Geigy Achievement Award.



The in-coming officers for the Maryland Society of Hospital Pharmacists are shown following the Inauguration and Awards Banquet.



Bonnie Pitt (left) receives the Pfizer Hospital Pharmacist of the Year Award from President Patrick Birmingham.

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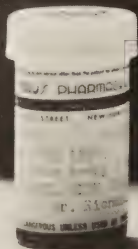
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**Elixir:** Each 5 ml. contains 12 mg. codeine phosphate\* plus 120 mg. acetaminophen (alcohol 7%)

\*Warning: May be habit forming

**Actions:** Acetaminophen is an analgesic and antipyretic; codeine an analgesic and antitussive

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**Warnings:** *Drug dependence:* Codeine can produce drug dependence of the morphine type and may be abused. Dependence and tolerance may develop upon repeated administration, prescribe and administer with same caution appropriate to other oral narcotics. Subject to the Federal Controlled Substances Act

*Usage in ambulatory patients:* Caution patients that codeine may impair mental and/or physical abilities required for performance of potentially hazardous tasks such as driving a car or operating machinery

*Interaction with other CNS depressants:* Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics or other CNS depressants (including alcohol) with this drug may exhibit additive CNS depression. When such a combination is contemplated, reduce the dose of one or both agents

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# THE MARYLAND PHARMACIST

Official Journal of  
The Maryland  
Pharmaceutical  
Association

OCTOBER 1980  
VOL. 56  
NO. 10



## **Pregnancy Testing**

*- Dr. Elizabeth Connell*

## **Home Study Lessons from CECC**

## **Abstracts**



# THE MARYLAND PHARMACIST

650 WEST LOMBARD STREET  
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The Maryland Pharmaceutical Association is doing its job in representing the profession of Pharmacy in the State of Maryland. As is the case in any organization, the definition of the job to be performed must be developed through review of what was, is, and will be expected (past, present and future). The role to be played by the Association must be defined by its members, constituents and allied groups. Positive steps continue to be taken by the Association staff, Board of Trustees, House of Delegates and designated members and committees toward gaining due recognition for pharmacists and pharmacy.

An important adjunct to job description and job performance which much become an ongoing part of the function of the Association is job evaluation. The evaluation process will be most effective with increased participation of constituents and allied professional groups and their respective members.

I say we are doing our job, but you must communicate to me what else needs to and can be done. Suggest how to accomplish those necessary and essential activities and be willing to do your share. Communicate to the Association any recognition you have received from community activity which contributed to the enhancement of the profession (don't be modest!). Don't keep secret problems experienced by you, especially if you have resolved those problems. Allow others to benefit from your experience. Call for help when it is needed and answer the call for help when you hear it.

Let us speak for you when needed and let us speak through you when needed.

*REMEMBER COMMUNICATIONS AND COOPERATION*

*Samuel Lichter*

# Pregnancy Testing

by Dr. Elizabeth Connell\*

## Introduction

### A. Ancient history

For centuries, women have been anxious to know whether or not they were pregnant. We have learned from medical history that several presumptive tests were devised in order to try to establish the presence or absence of pregnancy. Women reportedly sprinkled their urine on papyrus plant leaves. If the plant lived, that meant they were pregnant; if the plant died, then they were not. Another interesting technique described in the Hebrew scriptures was for a woman to stand on soft ground. If her feet sank into the dirt, it meant that she was pregnant. Finally, Egyptian hieroglyphics depicted yet another method. A woman smeared heavy oil on her skin before going to bed. If her skin had turned green by morning, she was pregnant.

### B. Modern era

In 1928, Aschheim and Zondek first identified the "pregnancy hormone" in the urine of pregnant women.<sup>1</sup> They called it "prolan", believing that it was produced by the anterior pituitary gland. It was noted to disappear following delivery, and it began to be suspected that it was different from the pituitary hormone and was actually produced by the placenta. This fact was confirmed in 1938 when Gey, Jones, and Hellman, growing placental (trophoblastic) cells in tissue culture, were able to demonstrate the production of this hormone.<sup>4</sup> The chemical structure of the hormone was determined by Gurin in 1942 to be that of a glycoprotein similar to but different from pituitary gonadotropin.<sup>5</sup> Finally, the hormone was crystallized by Cleasson in 1948.<sup>2</sup>

## Anatomy of the Female Reproductive Tract

### A. Brain

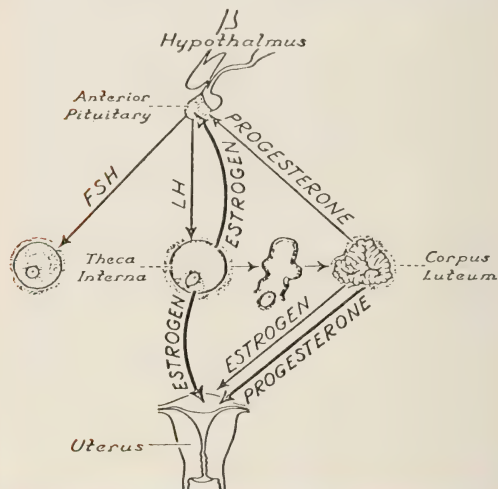
For a considerable period of time, it was believed that the entire reproductive capacity of the female resided in her pelvic organs. However, with continued research, it became clear that the central nervous system (CNS) was essential to the entire process. At first the pituitary was considered to be "the leader of the endocrine orchestra." Somewhat later it was discovered that pituitary function depended upon and was

controlled by substances produced in the hypothalamus and carried to the pituitary by a portal system of blood vessels. These stimulate the release of pituitary hormones, which, in turn, are responsible for ovarian function. This entire process is described as the hypothalamic pituitary-ovarian axis (Figure 1).

### B. Pelvic organs

The female pelvic organs, specifically the ovaries, are now recognized to function as target tissues, responsive to stimuli arising in the CNS. The remainder of the pelvic reproductive structures, the Fallopian tubes (oviducts), uterus, cervix, and vagina respond to the cyclic hormonal stimulation coming from the ovaries.

FIGURE 1  
HYPOTHALAMIC-PITUITARY-OVARIAN AXIS



Reprinted with permission from "The Indiana Pharmacist" Vol. 61, No. 6, June, 1980.

\* Associate Professor of Obstetrics/Gynecology at Northwestern University Medical School.



# Physiology of the Female Reproductive Tract

## A. Brain

At the time of puberty, certain hormones called releasing factors begin to be elaborated by the hypothalamus. These agents then stimulate the pituitary to release its hormones, FSH and LH, which in turn cause changes in the ovaries resulting in the ovarian cycle. Hormones from the ovary then control the endometrial and cervical mucus changes.

## B. Ovaries

In the normally cycling woman, there is a constant interplay of hormones back and forth between the various components of the hypothalamic-pituitary-ovarian axis. Each month in response to FSH a follicle develops which produces three major estrogens. These feed back on the pituitary which releases LH, causing ovulation to occur. The follicle then is transformed into a corpus luteum which makes progesterone. This hormone acts on the CNS, FSH is released and the whole cycle starts again.

## C. Uterus

Each month, the uterus undergoes cyclic changes in response to the ovarian hormones. This is true with regard to the lining of the uterus, the endometrium, as well as to changes in the cervix and the type of mucus it produces.

During the first half of the cycle (follicular or proliferative phase), with the stimulation of estrogen the endometrium begins to grow, replacing that lost with the previous menses. In the second half of the cycle (luteal or secretory phase), under the influence of progesterone the endometrium becomes very vascular and rich in glycogen — changes necessary for implantation of a fertilized ovum.

Similar changes occur in the endocervical tissue. In addition, the cervical mucus undergoes marked alterations. At the time of ovulation, it is thin, watery and profuse, being easily penetrated by sperm. At all other times, it is thick, viscous and scant, being impenetrable to sperm.

If pregnancy does not occur, the estrogen and progesterone levels drop, menses appear and the whole cycle starts anew.

## Pregnancy

### A. Anatomy

Following fertilization in the outer portion of the Fallopian tube, the ovum begins to divide. Three days later it enters the uterine cavity, undergoes further cell division and begins to implant. At this time, the amnion and chorion begin to develop, ultimately resulting in the placenta.

### B. Physiology

Multiple hormones are produced by the placenta. These include estrogens, progesterone, certain adrenocorticosteroids, and chorionic gonadotropin (HCG). Each of the hormones has its own particular pattern of excretion during pregnancy.

## Pregnancy Tests

All pregnancy tests, ancient and modern, are based upon the detection of HCG either in the blood or urine, the latter being more commonly utilized because of its clinical simplicity. These tests fall into three general categories: animal, immunologic and presumptive.

## A. Animal

Various pregnancy tests using animals were developed in the early part of the twentieth century. Mice, frogs, toads, and rats were used in these tests. The Friedman Test, colloquially known as the "rabbit-test", was the first described in 1929.<sup>5</sup> Three injections of urine were administered intravenously to isolated virgin female rabbits. The end point was the development of corpora lutea with a 3% inaccuracy rate. This test was particularly costly since the rabbits had to be kept strictly isolated for one month prior to the test.

## B. Immunologic Tests

More recently, a number of slide and tube tests and newer tests using covalent binding have been developed, virtually replacing the animal tests. These have varying levels of sensitivity and become positive around or somewhat after the first missed period. In general, the tube tests have a sensitivity of 1.0 iu/ml but require one to two hours to perform, slide tests have a sensitivity of 2.0 iu/ml but require only one to two minutes to perform, and the newer tests are even more sensitive.

These tests are all based on an antigen-antibody response. Since these complexes are not visible to the naked eye, the immunological reactants are linked to an indicator particle such as red blood cells, bacterial cells, or latex particles. The immunological reactants, antigen (HCG) or its antibody, are attached to the indicators either by an absorptive process or by covalent binding. The different tests have varying end-points. The endpoints of the tube tests are read by the presence or absence of a ring. The slide tests are read by the presence or absence of agglutination on the surface of the slide. In the third type of test, the endpoint is the presence or absence of macroflocules formed in the convection current established in a liquid-filled tube.

## C. Presumptive Tests

For a number of years, progesterone and various progestins have been given to amenorrheic women suspected of being pregnant. If such women were not pregnant, withdrawal bleeding usually occurred. However, if the endometrium was not sufficiently primed by estrogen, no bleeding would occur, giving a false positive result. More importantly, the use of progestins in early pregnancy has been reported to result in fetal anomalies. Therefore, these tests are now contraindicated.

## Home Pregnancy Tests

### A. Rationale

For the past three years, women have been able to determine in the privacy of their own home whether or not they were pregnant. Today there are five home pregnancy tests available to the consumer, Bio-Dynamics Home Healthcare, Inc.'s Daisy 2<sup>®</sup>, Diagnostic Testing, Inc.'s Answer<sup>®</sup>, J.B. Williams Co.'s Acu-Test<sup>®</sup>, Warner Lambert Co.'s e.p.t.<sup>®</sup>, and Whitehall Laboratories Predictor<sup>®</sup>.

The rationale for allowing pregnancy tests to become available over-the-counter has been widely debated by both consumers and health professionals. It has been argued that there is no need for the home tests — that the tests can be carried out by doctors, clinics, hospitals and commercial laboratories as they have in the past. Great doubt has been expressed that the average woman could do the tests properly.

There is an opposing school of thought which believes that there are compelling reasons, both medical and psychological, for the existence of home pregnancy tests. First, the medical reasons. It is well recognized that it is important for a woman to seek medical care early in her pregnancy. If she wishes to continue her pregnancy to term, it is essential that she be aware of things which might damage the fetus during this very important period of early growth and development. Conversely, if she does not want to continue her pregnancy, it is best to terminate it early when both morbidity and mortality rates are extremely low. The home pregnancy tests make early detection possible since they become positive 6-9 days after the first missed menstrual period.

There are also several other potentially valuable advantages to having these tests readily available to consumers. Perhaps the key advantage is the ability to determine the presence or absence of pregnancy in the privacy of one's own home. This is important to many women, both those who want very much to be pregnant as well as those who definitely do not. Privacy allows time for reflection and the consideration of various options before consulting anyone else.

Women today are much more interested and involved with their health care than ever before. They want to know more about their bodies, particularly their reproductive tracts and they want to be involved in any decisions made regarding their medical care. It has been found that compliance is much better when patients are personally invested with their care. For this reason, it has been suggested that the early self-diagnosis of pregnancy may have a salutary effect on the way in which women handle themselves during pregnancy.

Finally, there is a factor of cost. The tests themselves are not significantly less expensive than comparable tests done in a traditional health care facility. In the event of a negative test, however, the unnecessary expense involved in a visit to a doctor or clinic is avoided.

## B. Description

All of the currently available home pregnancy test kits have three major components. The first of these is a test tube containing the reagent. The second is a small amount of distilled water, used to put these chemicals into solution. Third, there is a dropper, used to transfer urine into the test tube.

## C. Performance

The home pregnancy tests are relatively easy to perform. A morning urine specimen must be obtained. Random samples taken during the day should not be used because the HCG levels will be lower than in the morning specimen. Ideally, the test should be run shortly after voiding. If this is impossible, the urine should be refrigerated until the test can be done.

Once the test has been set up, it should be placed where it will not be disturbed. The final reading is made in one or two hours, depending on the test being used.

## D. Accuracy

When one looks at the accuracy of the home pregnancy test, one finds that there is little difference among the various products. Each of them can determine the presence of a pregnancy over 95% of the time. On the other hand, the accuracy rate in determining test specificities (determination of non-pregnancy) ranges between 80-96%.

As with laboratory tests, none of the tests are 100% accurate. All of them depend upon having a critical level of HCG and may be interfered with by excessive amounts of gonadotrophins FSH and LH. Moreover, women frequently are not sure as to the exact day that their period should begin. If the test is done too early, they will not have sufficient HCG in their urine specimen to turn the test positive.

In order to deal with this problem, the patient instructions in all of the kits recommended that a second test be done approximately one week following the first test when negative results have been found and menstruation has not begun. Studies have shown that over 98% of women subsequently determined to be pregnant have had positive second tests.

## E. Drug Interference

False-positive readings may occur if the patient is taking certain drugs. Thyroid hormones can cause an increase in circulating substances which are chemically and immunologically similar to HCG. Phenothiazines, by an unknown mechanism, may also cause a false-positive reading. Other medications do not seem to affect the home pregnancy tests, although further testing needs to be done.

## F. Usage

The home pregnancy test kits were first introduced in 1977. During 1978, sales of these kits grew at an annual rate of 2,000,000 units. In 1979, they continued to increase to an annual sales rate of 3,000,000 units. Consumer awareness of these products also continued to increase. A December, 1979 Consumer Research Corp. survey showed the highest rate of category awareness ever recorded — 87%. It has been estimated that 1980 will show a growth of more than 25% resulting in consumer purchases of more than 4 million units.

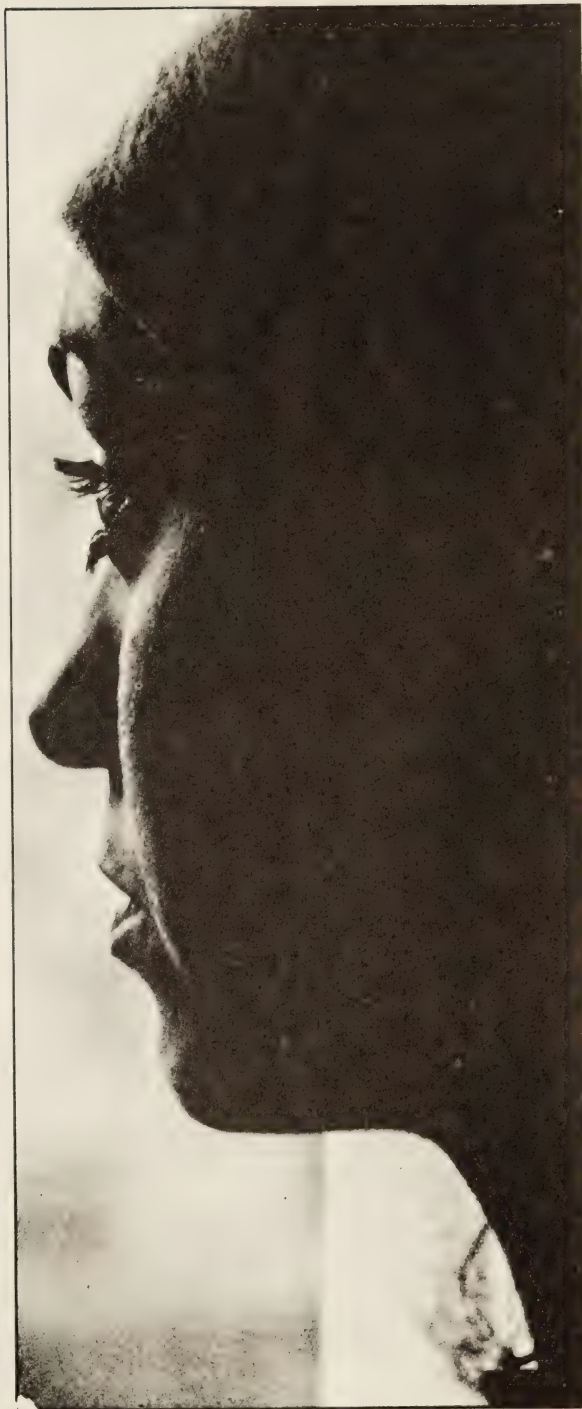
Today, there are 49 million women of childbearing age in the United States. If the current trend continues during the next five year period, a total of 8 million pregnancy tests per year may be purchased by women for use in their own homes.

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# Self-Test Quiz

1. Chorionic gonadotrophin is made by the:
  - a. Pituitary
  - b. Ovaries
  - c. Placenta
  - d. Endometrium
2. The reproductive cycle in the human female is controlled primarily by the:
  - a. Ovaries
  - b. Pituitary
  - c. Hypothalamus
  - d. Adrenals
3. Which of the following statements are true:
  - a. FSH stimulates the ovaries to produce progesterone
  - b. LH induces ovulation
  - c. Estrogens are made by the corpus luteum
  - d. None of the above
4. Which of the following hormones is primarily responsible for the increased vascularity, growth and glycogen deposition seen in the endometrium in the secretory phase of the menstrual cycle?
  - a. Chorionic gonadotrophin
  - b. Progesterone
  - c. Adrenocorticosteroids
  - d. Estrogen
5. At the time of ovulation the cervical mucus is:
  - a. thick
  - b. scanty
  - c. watery
  - d. none of the above
6. The placenta produces:
  - a. FSH
  - b. Adrenocorticosteroids
  - c. LH
  - d. Thyrotropic hormone
7. The sensitivities of the tube tests for pregnancy are generally \_\_\_\_\_ the slide tests:
  - a. greater than
  - b. less than
  - c. the same as
8. The home pregnancy tests are \_\_\_\_\_ the tests performed in the physician's office:
  - a. more accurate than
  - b. less accurate than
  - c. equal in accuracy with
9. The home pregnancy tests become positive in 96-98% of cases by the \_\_\_\_\_ week after the first missed period:
  - a. third
  - b. first
  - c. eighth
10. Most laboratory and home pregnancy tests recommend two tests to:
  - a. positively confirm test results when a positive result occurs
  - b. insure ingredients in ampule are correctly balanced.
  - c. Double check accuracy especially when the first test yields a negative result.







# There's More To It Than Meets the Eye . . .

. . . being able to balance and support the diverse needs of the profession, that is.

We've been practicing it for one hundred years, and we think we've got it right. But there are some people who refuse to believe. Like:

- Consumers groups
  - Government agencies
    - Third Party Programs
      - The Legislature and Congress
        - About 2,000 Pharmacists.

Because of them, and others like them, the job is getting harder every day. But we're still trying.

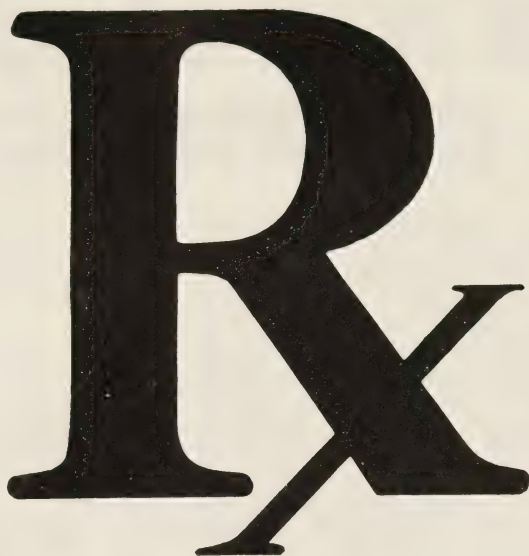
Besides representing the profession of pharmacy at home, in Annapolis and in Washington, the Maryland Pharmaceutical Association has put together an impressive package of membership benefits to help pharmacists in their daily practice:

- Group insurance services, including hospitalization, major medical, and many others.
- Continuing education programs and articles monthly, regionally and annually during the Annual Meeting.
- A vigorous program to further the professional and economic interests of pharmacists and the role of pharmacy in public health.
- A reliable information source through monthly journal articles and newsletters every month.
- Special interest activities and services.
- Useful services through the headquarters office, library facilities and employment placement.

These and other ongoing services are made possible by the dues paid by you and your colleagues. Think about that the next time you run into one of the 2,000 non-members of the Association.

Right now, pharmacy needs all the help it can get! And just think, if we can minimize the number of non-members, that's just one less factor in the "balancing act" we all have to face. The membership committee says:

## Sign 'em up! It'll help you . . . it'll help them!



# R

*"Buy some magazines, paperback books  
and comics, and come back to see us  
again in a few days."*

That's the prescription you can fill again and again for your customers if you have a fully stocked magazine department.

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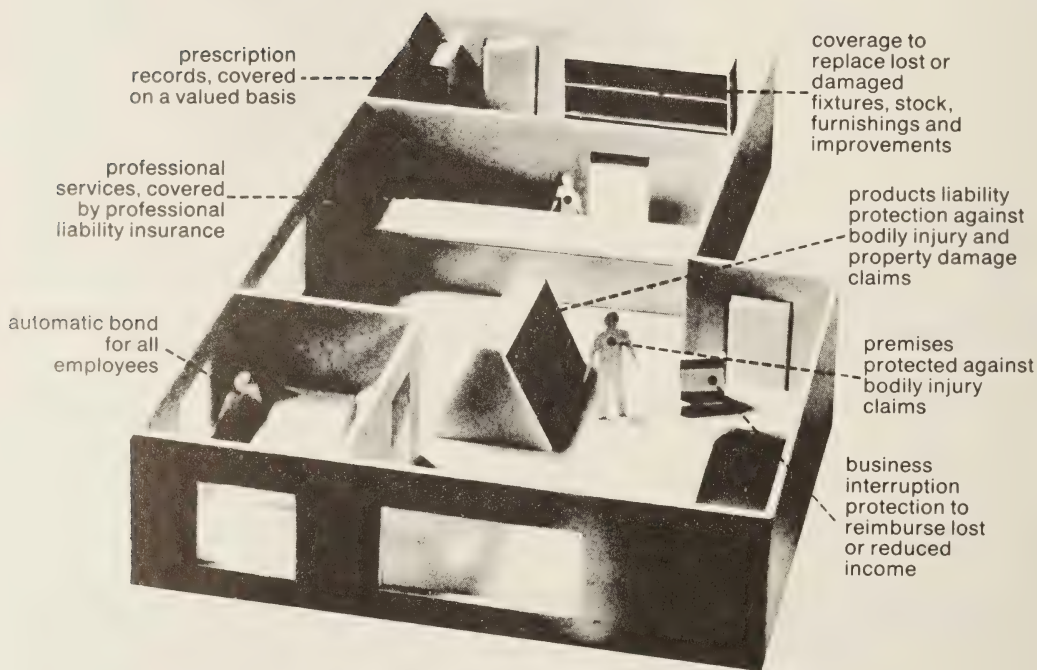
If you're not now offering periodicals to your customers, you should be. Just ask us how profitable it can be.

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**PROTECT YOUR BUSINESS WITH  
 THE PHARMACEUTICAL PROTECTOR PLAN  
 WRITE OR CALL FOR DETAILS TODAY!**



# BW is 100-years-old

On September 27, 1880, a deed of partnership was signed by two young American pharmacists — Silas Burroughs and Henry Wellcome. One hundred years later, their venture has grown into one of the largest privately-owned pharmaceutical companies in the world.

Henry Wellcome first encountered the world of pharmacy at the age of 13 when he assisted in the family drugstore in Garden City, Minnesota. He later graduated from the Philadelphia College of Pharmacy. It was in Philadelphia that Wellcome met a fellow student who was to have a profound influence on his life — Silas Burroughs.

A native of New York, Burroughs also graduated from the Philadelphia College of Pharmacy. He took a position with John Wyeth, a leading drug firm, and was sent to London in 1878. Two years later, Wellcome joined him there.

The principal factor in the decision of Burroughs and Wellcome to start their own business was the new compressed tablet. Although the compressed pill was first made in England as early as 1843, the great technical advances had been made in America in the 1870's. Burroughs Wellcome & Co. quickly developed a lead in the technology of compressing medicines into tablets.



Silas Burroughs

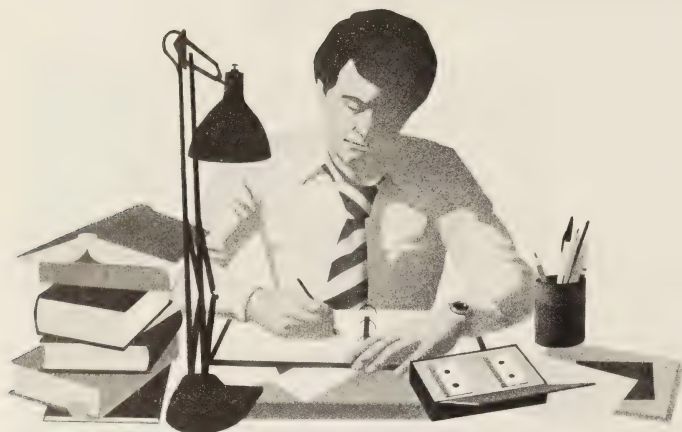


Henry Wellcome

In 1894, Wellcome was the first to establish a research facility within a pharmaceutical company. Many drugs and biologicals have been developed within the Wellcome Research Laboratories. In the past 30 years alone, Wellcome scientists have discovered compounds used in the treatment of malaria, leukemia, gout and a wide range of bacterial diseases. An immuno-suppressive agent discovered by the company has been used in nearly all kidney transplants. In April, Burroughs Wellcome received FDA approval to market Viroptic® brand Trifluridine, a new drug designed to treat herpes simplex virus infections of the eye.

When Wellcome died in 1936, the terms of his will created a unique corporate structure. The Wellcome Trust, a seven-member board, was established as the sole shareholder of the affiliated Wellcome companies around the world. Instead of distributing dividends to public stockholders, Burroughs Wellcome Co. gives its distributable profits to the Trustees, who in turn use the money to fund research programs all over the world. The Trust does not support research programs conducted by the company's scientists at Research Triangle Park, North Carolina. This research is funded through sales of drug products.

# BEFORE HE CAN LOG ONE HOUR WITH YOU...



## 120 HOURS: FIELD STUDY PROGRAM

Members of the Roche Sales Force must undergo an intensive training program before representing the company.

Trainees are expected to become completely knowledgeable about all Roche products and their major competitors. They learn the etiology of the diseases for which Roche medications are indicated, and the anatomy, physiology and pathology of the body systems involved.

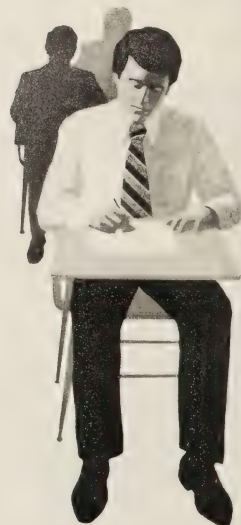
Training begins with a home study program using standard medical texts and audiotapes. At the same time, representatives participate in preceptorships with physicians, pharmacists and wholesalers in order to gain insight into the daily activities of our customers. They receive practical on-the-spot training from experienced sales personnel and instruction on Roche policies and procedures from field managers.



## 80 HOURS: TRAINING SEMINARS

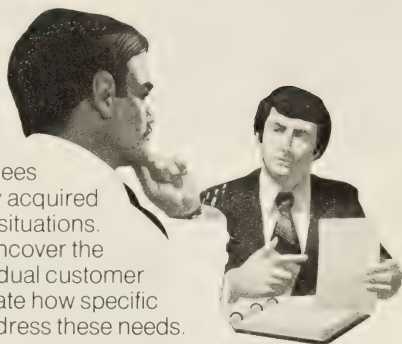
The Roche Career Development Training Center utilizes the latest in educational technology to provide specialized instruction on each major product. Medical expertise is brought into the classroom through live lectures, closed circuit videotapes, audiotapes and computer learning systems.

Through this innovative multimedia approach, trainees learn the pharmacology of Roche and competitive products. They learn to differentiate the diseases and disorders for which Roche medications are indicated from those for which they would not be appropriate.



## 40 HOURS: COMMUNICATION TRAINING

This innovative program draws on modern communication techniques to increase interpersonal skills. Trainees practice these newly acquired skills in role-playing situations. They learn how to uncover the needs of each individual customer and to effectively relate how specific product features address these needs.



## 10 HOURS: TESTS AND EVALUATIONS

Every step of the way, trainees are checked to be sure they have properly assimilated the information presented to them. Evaluations are made on the basis of oral and written tests and on the trainee's performance in "role-play" selling situations.

Trainees are expected to score at least 80% on standard written tests. Opportunity is allowed for review and re-testing until every representative can meet the standards.

## 250 HOURS IS JUST THE BEGINNING

250 hours represent only a fraction of total training time because most phases described deal with only one or two Roche products. When one cycle is completed a new one begins, covering other products. This process is repeated until all major Roche products are included. Total training time may therefore exceed 700 hours.

And learning doesn't stop when the training period ends. All Roche Representatives are involved in an annual recertification which reaffirms their knowledge in pertinent areas. Representatives must score at least 80% on the annual test: The Advanced Qualification Program.

Roche Representatives stay well informed to meet the ever-changing challenge of serving the medical and pharmacy community.

# HE LOGS 250 WITH US.

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# Our best friends are our severest critics and our greatest assets.

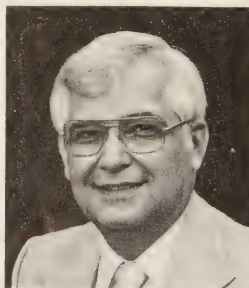
## Meet our 1980 Pharmacy Consultant Panel.



Ronald A. Dee, R.Ph., Exec. Sec.  
Minnesota Pharmaceutical Assoc.  
Minneapolis, Minnesota



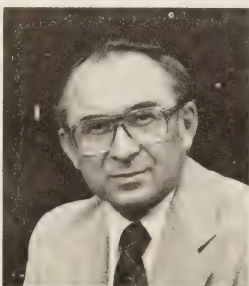
Harold H. Wolf, Ph.D.  
College of Pharmacy  
University of Utah  
Salt Lake City, Utah



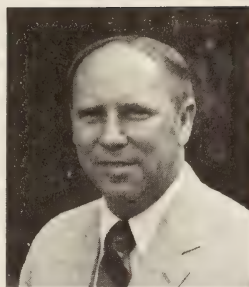
Nelson E. Taylor, R.Ph.  
Community Pharmacist  
Nampa, Idaho



Arthur Koorhan, R.Ph., Div. V.P.  
Pharmacy Operations, Cunningham  
Drug Stores, Detroit, Michigan



David Zitz, R.Ph., Dir.  
Pharmacy and Central Service  
University of Wisconsin Hospitals  
Madison, Wisconsin



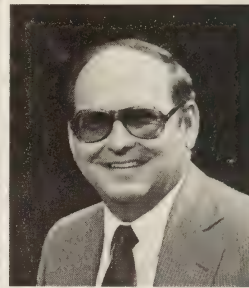
H. Joseph Schutte, R.Ph.,  
Community Pharmacist  
Louisville, Kentucky



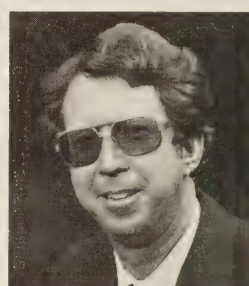
Marianne Ivey, R.Ph.  
Clinical Pharmacist  
University of Washington Hospitals  
Seattle, Washington



Milton H. Miller, R.Ph.  
President, Petty Drug Company, Inc.  
Little Rock, Arkansas



Gary Thudium, R.Ph.  
Community Pharmacist  
Vinton, Iowa



Harland W. Henry, R.Ph.,  
Director of Pharmacy  
Memorial Hospital System  
Houston, Texas

sional and other pertinent matters are invaluable.

Their advice and counsel helps us serve you better in the expanding role of pharmacy.

No diplomatic double talk. We need the advice of pharmacists in order to do a better job for pharmacists. The bad news and the good. That's what the ten members of our 1980 Pharmacy Consultant Panel provide. Their views on profes-

**Upjohn**

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# PMA Says Rx Prices Are Down Through 1979



For the second consecutive year, the rate of inflation for manufacturers' prescription drug prices has declined. In 1979, manufacturers prices rose 5.2 percent, down slightly from 5.4 percent in 1978 according to an index sponsored by the Pharmaceutical Manufacturers Association. Meanwhile, retail prescription prices increased 6.5 percent, up from the 5.6 rate in 1978. The size of prescriptions also rose 1.1 percent.

The indexes, compiled by retired City College of New York economics professor John M. Firestone, Ph.D., show both PMA findings and those of the U.S. Bureau of Labor Statistics (BLS). Highlights of annual increases include:\*

	1979		1978	
	PMA	BLS*	PMA	BLS
Manufacturers Rx prices	5.2%	7.1%	5.4%	5.2%
All industry prices		12.9%		7.8%
Consumer Rx prices	6.5%	7.3%	5.6%	8.2%
All consumer prices		11.3%		7.6%
All medical prices		9.3%		8.4%

## Manufacturers Price Index

From 1967 through 1979, manufacturers' prescription prices increased 46 percent (higher than the comparative BLS increase of 41 percent). Meanwhile the all items producers price index jumped 136 percent. Manufacturers 1979 annual increases by therapeutic class follow:

AVERAGE CHANGE IN PRODUCERS' Rx PRICES  
By Therapeutic Group 1978-1979

Group	Percent	Group	Percent
Analgesics	+2.5	Cardiovasculars	+5.8
Antiarrhythmics	+7.1	Contraceptives, oral	+23.7
Anti-Infectives	+0.1	Cough & cold	+0.5
Antibiotics	+0.9	Dermatologicals	+5.5
Broad & Medium Spec	+3.7	Diabetic Therapy	+4.6
Penicillin	+9.2	Diuretics	+3.2
Sulfonamides &	+9.5	Hormones	+6.4
Antibacterials	+0.6	Psychotherapeutics	+8.1
Anti Obesity	+5.4	Sedatives	+7.9
Antispasmodics	+3.4	Vitamins	+5.2
Bronchial Therapy	+6.1	All Other	+5.6

## Consumer Price Index

Rx retail prices between 1967 and 1979 increased 37 percent (42 for BLS) compared to 117 percent for all items and 140 percent for all medical costs. Below are annual retail price increases by therapeutic class for 1979.

AVERAGE CHANGE IN RETAIL Rx PRICES  
By Therapeutic Group 1978-1979

Group	Percent	Group	Percent
Analgesics	+5.7	Cardiovasculars	+5.5
Antiarrhythmics	+6.0	Contraceptives, oral	+21.1
Anti-Infectives	+2.1	Cough & cold	+6.8
Antibiotics	+2.1	Dermatologicals	+6.2
Broad & Medium Spec	+4.3	Diabetic Therapy	+7.2
Penicillin	-2.8	Diuretics	+5.1
Sulfonamides &	+9.5	Hormones	+7.6
Antibacterials	+2.7	Psychotherapeutics	+7.8
Anti Obesity	+8.0	Sedatives	+9.9
Antispasmodics	+5.5	Vitamins	+6.4
Bronchial Therapy	+6.5	All Other	+7.5

Group	Percent	Group	Percent
Analgesics	-2.5	Cardiovasculars	+5.8
Antiarrhythmics	+7.1	Contraceptives, oral	+23.7
Anti-Infectives	-0.1	Cough & cold	-0.5
Antibiotics	-0.9	Dermatologicals	+5.5
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Penicillin	-9.2	Diuretics	+3.2
Sulfonamides &	+9.5	Hormones	+6.4
Antibacterials	+0.6	Psychotherapeutics	+8.1
Anti Obesity	+5.4	Sedatives	+7.9
Antispasmodics	+3.4	Vitamins	+5.2
Bronchial Therapy	+6.1	All Other	+5.6

## Prescription Size Index

Because of changing prescribing patterns, the average size of a prescription has grown 68 percent since 1960. When this is figured into the average charge for a prescription, which was \$3.22 twenty years ago, the 1979 average charge of \$7.03 is considerably reduced. Adjusting for size, it now costs \$4.18 to buy the same amount of medicine that was dispensed for \$3.22 in 1960. Prescription charges and size adjustments are shown below.

AVERAGE PRESCRIPTION CHARGE  
(Actual and Adjusted for the Number of Doses)  
1960-1979 (in dollars)

Year	Actual	Adj.	Year	Actual	Adj.	Year	Actual	Adj.
1960	\$3.22	\$3.22	1967	\$3.63	\$3.03	1973	\$4.45	\$3.02
1961	3.27	3.19	1968	3.70	3.01	1974	4.70	3.09
1962	3.26	3.12	1969	3.86	3.03	1975	5.20	3.45
1964	3.42	3.08	1971	4.19	3.09	1977	5.98	3.60
1965	3.48	3.08	1972	4.32	3.06	1978	6.44	3.87
1966	3.56	3.07				1979	7.03	4.18

The complete PMA/Firestone indexes are available from PMA upon request.



# Handbook on Pediatric Doses Available from APhA.

The American Pharmaceutical Association (APhA) announces publication of the 1980 Pediatric Dosage Handbook, prepared by pharmacist-pediatrician Harry C. Shirkey. The handbook provides practitioners with the kind of information they need to make professionally sound judgments in the important area of pediatric drug therapy.

The need for distinguishing pediatric drug therapy from adult treatment has become increasingly apparent with the recognition of differences in drug metabolism between children and adults. The assumption of a direct relationship between adult drug requirements and dosages for children may result in underdosage or overdosage.

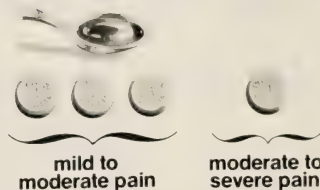
The 1980 handbook is the continuation of an effort to separate drug use and dosage in infants and children from those in adults. The handbook originated as a "children's drug table" that has undergone revision and extension in subsequent editions. Specific information on drug use in pediatric patients is provided in the more than 300 monographs contained in the 1980 handbook. The monographs are organized alphabetically to facilitate practitioner use and include a category statement for the drug along with separate sections for its recommended dosages, warnings, contraindications, precautions, adverse reactions, trade name information, and available dosage forms.

The introductory section features a classification of the agents by their pharmacological category, and an index is included that lists drug entities by their generic and trade names.

The new 1980 handbook is available for \$15 (\$10 for APhA members) from the Order Desk, American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington, D.C. 20037. Orders under \$100 must be prepaid.



## TYLENOL<sup>®</sup> with Codeine<sup>®</sup> tablets & elixir



### Summary of Prescribing Information

#### Description

**Tablets:** Contain codeine phosphate\*: No. 1—7.5 mg. (1/4 gr.); No. 2—15 mg. (1/2 gr.); No. 3—30 mg. (1 gr.); No. 4—60 mg. (1 gr.)—plus acetaminophen 300 mg.

**Elixir:** Each 5 ml. contains 12 mg. codeine phosphate\* plus 120 mg. acetaminophen (alcohol 7%).

\*Warning: May be habit forming.

**Actions:** Acetaminophen is an analgesic and antipyretic; codeine an analgesic and antitussive.

**Contraindications:** Hypersensitivity to acetaminophen or codeine.

**Warnings:** *Drug dependence:* Codeine can produce drug dependence of the morphine type and may be abused. Dependence and tolerance may develop upon repeated administration; prescribe and administer with same caution appropriate to other oral narcotics. Subject to the Federal Controlled Substances Act.

*Use in ambulatory patients:* Caution patients that codeine may impair mental and/or physical abilities required for performance of potentially hazardous tasks such as driving a car or operating machinery.

*Interaction with other CNS depressants:* Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics or other CNS depressants (including alcohol) with this drug may exhibit additive CNS depression. When such a combination is contemplated, reduce the dose of one or both agents.

*Use in pregnancy:* Safe use not established. Should not be used in pregnant women unless potential benefits outweigh possible hazards.

*Pediatric use:* Safe dosage of this combination has not been established in children below the age of three.

**Precautions:** *Head injury and increased intracranial pressure:* Respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

*Acute abdominal conditions:* Codeine or other narcotics may obscure the diagnosis or clinical course of acute abdominal conditions.

*Special risk patients:* Administer with caution to certain patients such as the elderly or debilitated and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, and prostatic hypertrophy or urethral stricture.

**Adverse Reactions:** Most frequent: lightheadedness, dizziness, sedation, nausea and vomiting, more prominent in ambulatory than nonambulatory patients; some of these reactions may be alleviated if the patient lies down. Others: euphoria, dysphoria, constipation and pruritus.

**Dosage and Administration:** Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. TYLENOL with Codeine tablets are given orally. The usual adult dose is: Tablets No. 1, No. 2, and No. 3: One or two tablets every four hours as required; Tablets No. 4: One tablet every four hours as required. TYLENOL with Codeine elixir is given orally. The usual doses are **Children (3 to 6 years):** 1 teaspoonful (5 ml.) 3 or 4 times daily; **(7 to 12 years):** 2 teaspoonful (10 ml.) 3 or 4 times daily; **(under 3 years):** safe dosage has not been established. **Adults:** 1 tablespoonful (15 ml.) every 4 hours as needed.

**Drug Interactions:** CNS depressant effect may be additive with that of other CNS depressants. See Warnings.

For information on symptoms/treatment of overdosage, see full prescribing information.

Full directions for use should be read before administering or prescribing.

TYLENOL with Codeine tablets are manufactured by McNeil Laboratories Co., Dorado, Puerto Rico 00646.

Caution: Federal law prohibits dispensing without prescription.

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McNEIL PHARMACEUTICAL

McNEILAB, INC.

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# ALL SHE CAME IN FOR WAS **TYLENOL®** with Codeine **Ⓜ**

Tablets contain codeine phosphate\* No. 1—7.5 mg (1/8 gr), No. 2—15 mg (1/4 gr), No. 3—30 mg (1/2 gr), No. 4—60 mg (1 gr)—plus acetaminophen 300 mg. **Elixir:** Each 5 ml contains 12 mg codeine phosphate\* plus 120 mg acetaminophen—alcohol 7%. \*Warning: May be habit forming.

## ■ **TYLENOL with Codeine brings 2 million people per month into pharmacies nationwide†**

—people who buy your health and beauty aids, your first aid supplies, your appliances, anything on your shelves and in your aisles!

## ■ **Filling TYLENOL with Codeine Rx's as written means:**


—excellent gross profit margin: average of 51%!†  
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On an average Rx of 25 tablets\*:

TYLENOL with Codeine #3 tablets . . . . \$4.35  
Generic substitute . . . . . \$4.08

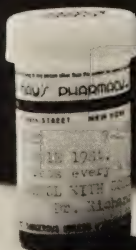
—plus the McNeil commitment to research for new products ensuring the future—ours and yours.

†BASED on new and refill prescriptions, 1st Quarter 1980

† Independent Market Research Study-263 stores, June 1980



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We try to help you by providing quality products, policies and pertinent information—like Pharmascan®, which is distributed by our Representatives, assistance for many Continuing Education seminars, and a host of other educational materials that touch on all aspects of your profession. It's our way of recognizing your vital contribution to community health care.

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Years in Practice \_\_\_\_\_ Pharmacy Affiliation \_\_\_\_\_ Phone \_\_\_\_\_

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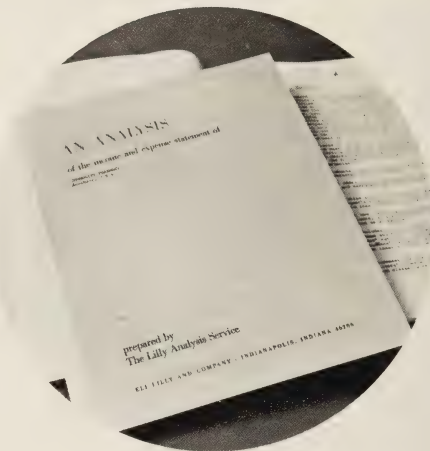
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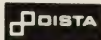
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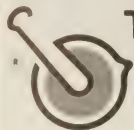


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## LETTERS



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Thank you for your cooperation.

Richard F. Curley  
Group Sales Manager  
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Dear Mr. Banta:

I would like to comment on the statement on Dilantin and generic phenytoin preparations that appeared in the July/August 1980 issue of the Newsletter of the Maryland Pharmaceutical Association.

Your references to The Medical Letter statement, "FDA-approved generic formulations of phenytoin sodium are probably more reliably absorbed than Dilantin Kapseals . . ." and the Newsletter phrase, ". . . probably not as reliably absorbed . . ." should be scientifically proven regarding differences in bioavailability between Dilantin Kapseals and generic phenytoin preparations before being used.

The reference cited by The Medical Letter (Melikian, A.P. et al, Journal of Pharmacokinetics and Biopharmaceutics 5:133-46, 1977) reported the findings of a single 100 mg dose of phenytoin in 12 normal subjects. The demonstrated significant differences in peak plasma concentration and area under the plasma level-time curve were not only between Dilantin and certain generic products but also among certain generic products themselves. Thus, the potentially serious clinical consequences of substituting a generic product for Dilantin or for another generic product are obvious, were the results of this single-dose study extrapolated to the long-term clinical management of seizure disorders. Unfortunately, this was not brought out in The Medical Letter article. As we see the problem, it is important for the individual patient to receive a product with consistent characteristics each time a prescription for phenytoin is filled. With Dilantin this will be the case; with generic products it may or may not be.

Furthermore, the absorption characteristics of Dilantin permit once-a-day dosage in many patients following the attainment of seizure control with the 100 mg t.i.d. regimen. The importance of once-a-day dosage in improving patient compliance needs no further comment.

This subject is further discussed in the FDA Drug Bulletin, Volume 8(4), August-September 1978, in the section entitled "New Prescribing Directions for Phenytoin."

We believe this information should be conveyed to your readership so that they may have *all* relevant information on this most important subject.

Sincerely yours,

Arthur D. Flanagan, M.D.

## calendar



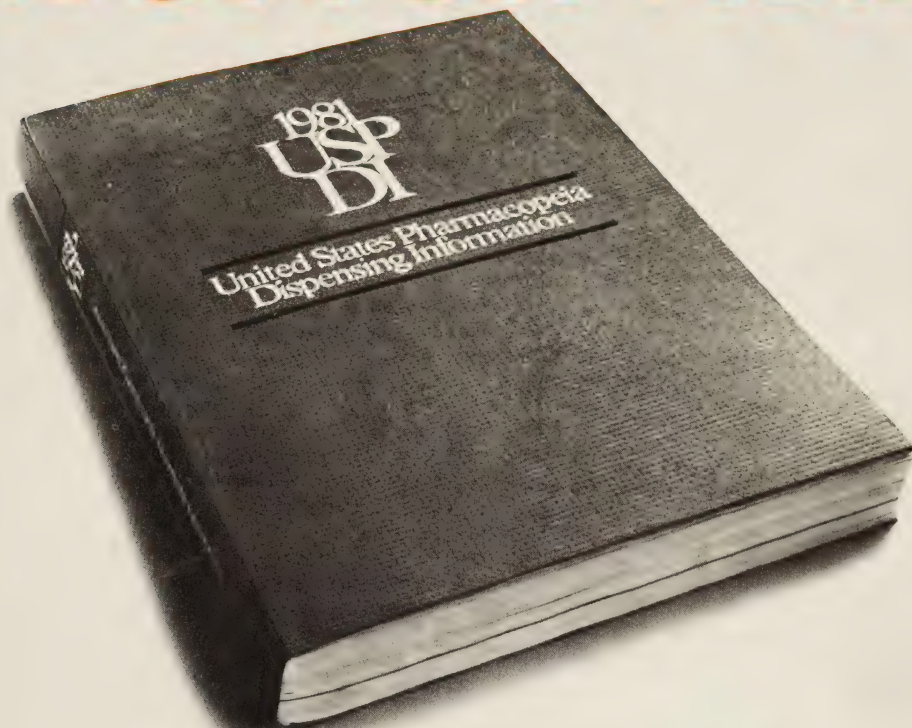
- OCT. 23 — MPhA FALL REGIONAL MEETING — Kelly Building
- OCT. 26 — Pr Geo/Mont Co Pharm Assn — Installation Banquet
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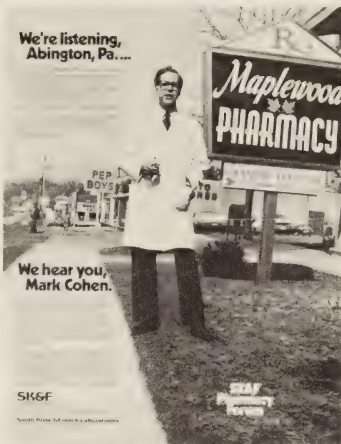
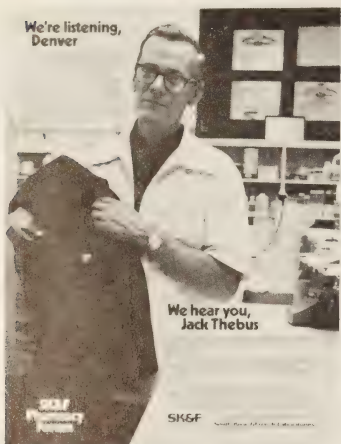
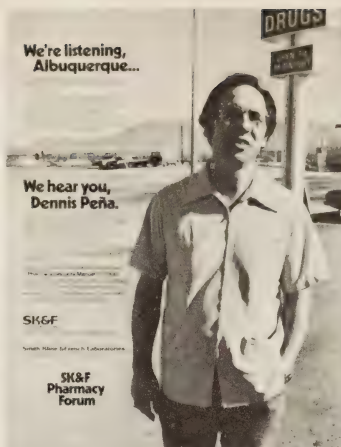
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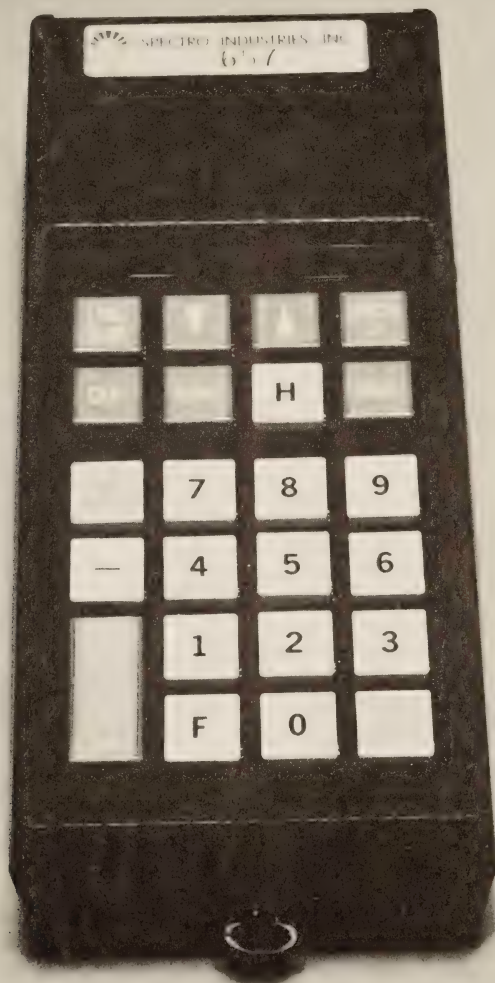
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# ABSTRACTS

Excerpted from PHARMACEUTICAL TRENDS, published by the  
St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor  
and Leonard L. Naeger, Ph.D., Associate Editor

## GAMMA BENZENE HEXACHLORIDE

Reports of adverse drug reactions involving the scabicide gamma benzene hexachloride (GBH) were studied to determine the true incidence of side effects produced by the drug. The effects of GBH in children were carefully studied because children have large surface area-to-volume ratios and may experience greater skin penetration of the insecticide (especially if applied after a warm bath), may have immature hepatic systems for metabolizing the drug, and may unintentionally lick the skin and ingest the drug. If taken orally, the drug can cause seizures. Most cases of suspected GBH toxicity were subsequently found to be due to the insecticide lindane and thus clinicians feel GBH is safe and effective when used as directed. *CLIN PHARM*, Vol. 27, #2, p. 149, 1980.

## METHYLDOPA

The antihypertensive agent, methyldopa (Aldomet) has been found to occasionally produce galactorrhea. The drug was shown to elevate prolactin levels but the mechanism of this elevation is not known. It has subsequently been noted that methyldopa does not itself directly stimulate the release of the pituitary hormone but that it interferes with the substance which acts as an inhibitor of prolactin secretion. *J PHARM EXP*, Vol. 212, #2, p. 304, 1980.

## CLINICAL TRIALS

Two drugs will soon be used in clinical trials in order to determine their relative safety and efficacy. Nabilone is an anti-emetic compound related to the cannabinol compounds. It has been shown to be effective in preliminary studies. Eldisine is said to be of particular value in treating acute lymphocytic leukemia in children after the initial remission has been induced with other agents. It has also been suggested that this antineoplastic agent be used in patients who have demonstrated cancer growth which have been found to be resistant to conventional therapy. *FDC RPTS*, T&G 12, Vol. 42, #3, 1980.

## PENICILLIN AND PLATELET DYSFUNCTION

Large doses of penicillin G and carbenicillin have been associated with platelet dysfunction and the development of bleeding tendencies. In-vitro research has produced information which suggests that the antibiotics inhibit platelet activity by interfering with the interaction of agonists with their receptor sites on the platelets. Thus the platelets do not react to the stimulus, and aggregation is prevented. *J CLIN INV*, Vol. 65, #2, p. 329, 1980.

## CRYOANALGESIA

The use of cold to produce temporary nerve block is increasing. Patients experiencing thoracotomy pain were treated with either a local anesthetic or the cryoanalgesic

procedure. Patients receiving the new therapy experienced less post-operative pain than did those who were given the local anesthetic. The analgesia produced by the cryoanalgesic technique lasts no longer than 30 days and was completely reversible. There were no adverse sequelae. *LANCET*, vol. 1, p. 8167, p. 512, 1980.

## COCAINE

As cocaine becomes more frequently found on the list of abused drugs in this country, more work is being performed in order to determine its pharmacokinetic parameters. The drug was administered intranasally and orally to different subjects and analysis of plasma has shown the drug to be present in the plasma to the same extent. Most published information to date has indicated that cocaine is only minimally effective if given orally, but these authors feel that the drug is well absorbed but that the onset of action may be somewhat delayed because of the vasoconstrictor activity of the drug. *CLIN PHARM*, Vol. 27, #3, p. 386, 1980.

## CORYNEBACTERUM VAGINALE

*Trichomonas vaginalis* accounts for many cases of vaginitis, but other causes, excluding yeasts, have largely been uninvestigated. Studies show that significant numbers of these previously unidentified infections are caused by an organism known as *Corynebacterium vaginale*. This organism is only partially affected by tetracycline therapy, but does respond dramatically to metronidazole (Flagyl). *LANCET*, Vol. 1, #8167, p. 501, 1980.

## FLUOSOL

A new type of artificial blood called fluosol has been used in three patients who refused blood transfusions, for religious reasons. The product has drawbacks, but many look for it to be widely used if continued success is reported when it is utilized. *J AM MED A*, Vol. 243, #8, p. 720, 1980.

## ETHANOL AND SMOKING

Smokers who ingest large quantities of ethanol are said to increase their cigarette consumption while they are drinking. Investigations with animal models show that pretreatment with ethanol will enhance the ability of the body to metabolize nicotine. Thus in order to maintain a constant nicotine level in the plasma during alcohol ingestion, the smoker will have to increase the amount of tobacco consumed. This seems to be a biochemical explanation for an old observation. *J PHARM EXP*, Vol. 212, #2, p. 274, 1980.

## ASPIRIN

It was not too long ago that information became available suggesting that the use of low dose aspirin may be beneficial in helping prevent the development of a sec-



and myocardial infarction. Information just published suggests that these preliminary studies are misleading. The new study found no difference in the mortality rate between treated and placebo groups. A dose of approximately 1000 mg. was used daily as compared with the 300 mg. dose used in earlier work. The effectiveness of aspirin in this situation is still unclear. *J AM MED A*, Vol. 243, #7, p. 661, 1980.

#### SACCHARIN

Many comments have been made questioning the safety of saccharin especially with respect to cancer of the lower urinary tract. A controlled study of approximately 1200 patients indicates that there is little or no excessive risk of lower urinary tract cancer in patients who routinely utilize this sugar substitute. *N ENG J MED*, Vol. 302, #10, p. 537, 1980.

#### CHICKEN POX IMMUNOGLOBULIN

A human anti-chickenpox immunoglobulin has been developed and is being used in high risk population groups to help reduce the risk of that infection. Studies have shown that the product is not completely effective, but more work is being done to determine if higher doses may increase its efficacy. The product works best if given to the patient immediately after they have been exposed to the virus. *LANCET*, Vol. 1, #8164, p. 354, 1980.

#### PROCAINE PENICILLIN

Injections of procaine penicillin G (4.8 million units) will contain almost 2 grams of procaine. Some small portion of the procaine is released from the injection site and can cause side-effects. The half-life of procaine in the blood seems to double when carbonic anhydrase inhibitors (e.g., acetazolamide-Diamox) are present. Patients taking carbonic anhydrase inhibitors should be carefully monitored and evaluated before injecting large doses of procaine penicillin G. *CLIN PHARM*, Vol. 27, #2, p. 179, 1980.

#### SPIRONOLACTONE-WARFARIN INTERACTION

Spironolactone (Aldactone) has been noted to decrease the effectiveness of warfarin as measured by the 1-stage prothrombin time determination. It is thought that this effect is due to a diuretic-induced contraction of the vascular volume which leads to hemoconcentration and increased activity of the clotting factors. *CLIN PHARM*, Vol. 27, #2, p. 198, 1980.

#### MACKEREL DIET

Greenland Eskimos have a low incidence of cardiovascular disease. Investigators have studied the diet of these people and have recognized the presence of large quantities of eicosapentaenoic acid in their diet. It is supplied primarily in the salt water fish (especially the mackerel) which constitute a major portion of their diet. It has been suggested that this substance is converted into prostaglandins which prevent platelet aggregation and thus help minimize the risk of cardiovascular disease. *LANCET*, Vol. 1, #8166, p. 441, 1980.

#### MONITORING ACETAMINOPHEN TOXICITY

Acetaminophen toxicity is generally associated with delayed liver damage which becomes apparent only several days after the ingestion occurs. Monitoring liver function with the conventional testing methods has been insufficient to predict the severity of the condition, so a new method of evaluation has been devised. An oral dose of radioactive aminopyrine is administered two hours before a sample of expired air is collected for analysis. Patients with poor prognosis tend to expire little of the radiolabeled compound indicating that the aminopyrine was not converted to carbon dioxide, a reaction which takes place normally in the liver. The major damage seems to occur to the hepatic microsomal enzyme systems. *BR MED J*, Vol. 280, #6210, p. 279, 1980.

#### INSULIN

Attempts have been made to administer insulin without restoring to injections. Suppositories were utilized experimentally and insulin has been placed into liposome-capsules which tend to protect the hormone from degradation by digestive juices. Animal experiments now show that insulin absorption by the intestine can be increased if the insulin is administered along with cetomacrogol, a non-ionic surfactant. The surfactant seems not to protect the insulin from degradation, but enhances its absorption from the intestinal tract. Some day there may be a dosage form of insulin which will be effective when given orally. *J PHARM PHA*, Vol. 32, #2, p. 108, 1980.

#### CONVULSIONS IN CHILDREN

Extreme hyperthermia in infants and children may produce convulsions which can lead to the development of neurological damage. Patients ranging from age 6 to 42 months were examined to determine if phenobarbital or valproic acid (Depakene) could help reduce the incidence of such convulsions. It was found that when phenobarbital levels were approximately 1.6 mg%, and valproic acid levels were 6.0 mg%, there was a significant reduction in the likelihood of a febrile-induced convulsion. *BR MED J*, Vol. 280, #6211, p. 353, 1980.

#### HYDRALAZINE

Hydralazine (Apresoline) is an antihypertensive agent which has been found to increase cardiac output. This may be of special concern to patients who also have a condition in which increased cardiac activity should be avoided, e.g., angina pectoris, cardiac arrhythmias, etc. The increase in cardiac output is thought to be due to an increase in venous return which serves to activate atrial stretch receptors. It has further been suggested that vasodilation produced by hydralazine in the renal beds is due to a mechanism which involves prostaglandin activity. *J PHARM EXP*, Vol. 212, p. 294, 1980.

#### ASPIRIN-PHENYTOIN INTERACTION

Aspirin has been found to displace phenytoin (Dilantin) from binding sites on plasma protein. This elevates the plasma level of the anticonvulsant but does not seem to increase the therapeutic or toxic effect of the phenytoin. *CLIN PHARM*, Vol. 27, #3, p. 170, 1980.

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OCTOBER, 1980

## HOW TO KILL AN ASSOCIATION

Don't participate beyond paying your dues—let "them" handle things

**Then complain that members have no voice in management.**

Decline all offices and committee appointments—you're too busy  
**Then offer vociferous advice on how they should do things.**

If appointed to a committee, don't work—it's a courtesy appointment  
**Then complain because the organization has stagnated.**

If you do attend management meetings, don't initiate new ideas  
**Then you can play "Devil's Advocate" to those submitted by others.**

Don't rush to pay your dues—they're too high anyway  
**Then complain about poor financial management.**

Don't encourage others to become members—that's selling  
**Then complain that membership is not growing.**

Don't read the mail from headquarters—it's not important  
**Then complain that you're not kept informed.**

Don't volunteer your talents—that's ego fulfillment  
**Then complain that you're never asked; never appreciated.**

And, if by chance, the organization grows in spite of your contributions  
**Grasp every opportunity to tell the youngsters how tough it was; how hard you worked in the old days to bring the organization to its present level of success.**

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PS Form 3526 (Page 1)

(See instructions on reverse)



# Old Mother Hubbard Went to the Cupboard

Old Mother Hubbard went to the cupboard, To  
get her poor stomach a pill, But when she got  
there, she found bottles to spare, From other  
times that she'd been ill.

There were capsules and  
potions and drugs  
for emotions,

Prescribed by a dozen physicians, Some were  
her brother's, some borrowed from others,  
Who had almost the same conditions.

"I'll throw it all out," she said with a shout,  
"My doctor's advice I will follow, I'll take only  
those pills prescribed for my ills, And use my  
head before I swallow."

# THE MARYLAND PHARMACIST

Official Journal of  
The Maryland  
Pharmaceutical  
Association

NOVEMBER 1980  
VOL. 56  
NO. 11



## **Antitrust Concerns from A.Ph. A Task Force**

*– Lewis Bernstein*

## **Public Relations for Small Business**

*– Kim Garvey*

## **Abstracts**

# THE MARYLAND PHARMACIST

650 WEST LOMBARD STREET  
BALTIMORE MARYLAND 21201  
TELEPHONE 301/727-0746



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## November President's Message — Sam Lichter

Time is fast approaching for the 1981 Maryland legislative session. The newsletter and journal will keep you informed of the association's positions on the various legislative matters. Dave Banta and other representatives will be listening and testifying in Annapolis in your behalf. Should you disagree with any of our stated positions or have other matters you find important to discuss, please notify Dave, so that a consensus opinion is voiced in Annapolis. As in the past, please notify us of any legislators known to you that might be of help in supporting our efforts in Annapolis.

A vital part of our profession and its future is developed by the University of Maryland School of Pharmacy. Aside from the provision of future members, the School of Pharmacy is an essential member of the Coordinating Council on Continuing Education. Our upcoming Centennial (1982) might also be the year of completion of the new School of Pharmacy. The State of Maryland will provide the funds for the building program, but many activities need the funds provided by private donations. The annual giving program of the School of Pharmacy is now beginning. The continued support of our membership is essential and an ever increasing list of contributors is needed to meet the expanding goals and objectives of the School. When called upon, please give to promote the future of the profession in Maryland.

As providers of primary health care we must find ways of attaining and maintaining professional competence. The quest for adequate measures of competence has not yet been satisfied, but will continue. Constant exposure to educational programs can only aid in our quest. We are not in agreement, generally, with things mandatory, so we must find some answers before continuing education as a requirement for relicensure becomes mandatory.

Pharmacy as a profession and Pharmacists as individuals have sought to expand services. If not yet, then certainly in the near future, the expansion of services will be limited by fiscal constraints. Unless patients or their health insurers recognize the need for our non-dispensing functions, and ARE WILLING TO PAY FOR THEM, we must either discontinue those services or find alternate means of financing them. Patient education and consultative services need be provided routinely, to be established as vital standards of practice.

In most Pharmacy practice environments, the use of supportive personnel enables Pharmacists to provide the expanded scope of services. The more able and better trained the supportive personnel are, the more complete the service we can provide. As representatives of the profession, we must determine what supportive personnel can do, what training they need, who is to provide that training, and what recognition will be afforded the trained supportive personnel. I contend that we are confronted with a challenge rather than a threat. It has been suggested that most Pharmacists in Maryland would be opposed to establishing formal programs for training supportive personnel. Please call or write me with your views on this alleged majority opinion.

## Antitrust concerns of the APhA Task Force on Third Party Programs



*The following paper was presented by Lewis Bernstein, formerly Chief of the Special Litigation Branch of the Antitrust Division-United States Justice Department. The paper represents an excellent description of the application of the federal Antitrust laws, in effect that action which is permissible and that which should be avoided by pharmacists and others in their professional and business relationships with third party and other program administrations. It is highly recommended reading for the contemporary pharmacist. (Editor)*

I have been retained by your Association to counsel the Third Party Task Force about the antitrust considerations which must guide their actions while they are identifying and addressing matters of concern to pharmacists in third party programs. Such advice is necessary mainly because Task Force efforts constitute combined activity and the antitrust laws apply to combined activities of professionals when such activity affects interstate commerce. Combined activities which restrict interstate commerce are prohibited by the antitrust laws.

Everything that this Association, its committees, or its task forces do, constitutes combined activity because all of their actions are done in behalf of all Association members collectively. For that reason, we must consider the antitrust laws which are concerned about combined or concerted activities. For the same reason, it is essential that the Task Force, the Association, and yourselves insure that such combined activities do not result in an unreasonable restraint of interstate commerce.

You may be puzzled about my statement that combined activities are prohibited by the antitrust laws.

**Presented by  
Lewis Bernstein  
APhA Special Council**

Reprinted from The  
Wisconsin Pharmacist

When you observe that certain professionals have formed unions and appear to engage in combined activities without any concern about the antitrust laws, you can well be expected to be puzzled. And when you also observe that many consumer and other groups combine by picketing, you might also be puzzled by my statement. But these specific activities are exempt from the application of the antitrust laws. A specific statute exempts from the application of the antitrust laws the combined activities of employees and their unions. But such exemption does not apply to self-employed professionals in their dealing, with third party programs or in their general dealings with the public. Likewise, picketing by consumer groups are not anti-competitive activities against which the antitrust laws are addressed.

As a general rule, combined activities of your Association and yourselves are only permissible when they do not restrict interstate commerce or when they have a pro-competitive effect upon such commerce. For that reason, your Association can assist pharmacists by keeping them informed about third party program developments. They can assist Association members by educating third party program administrators. They can also assist individual pharmacists by providing economic data which will help them in assessing their own individual participation in third party programs. Finally, they can assist all pharmacists in gaining a better understanding of the economic base of pharmacy practice in general, of how third party programs fit into the economic picture, and how efficient pharmacy management can aid all concerned.

Your Association may also provide third party program administrators with current information and data regarding the impact of their programs on the profession. However, to avoid antitrust law violations, individual pharmacists cannot act collectively in making a decision whether to participate or not participate in third party programs in general or in any specific third party program. Therefore, the Association must avoid any conduct that could be interpreted as advising pharmacists whether to participate or not participate in a third party program. Remember, as soon as the Association is involved in an activity, collective action is involved in that activity. Therefore, as soon as an Association representative would advise a pharmacist or groups of pharmacists to participate or not participate in a third party program, the Association would be engaged in the collective action that the law prohibits.

The penalties for antitrust law violations are severe. There are criminal penalties for those persons involved. The offences are now felonies. As if that were not bad enough, antitrust law violators are also exposed to expensive treble damage litigation. It is most imprudent to consider risking these penalties under the mistaken notion that somehow the Association or the other participants could get away with it.

For the same reasons, no representative of the Association may engage in negotiations relating to specific fees with any third party program administrator. Because the Association represents a group of pharmacists acting collectively, such negotiations



... you should be puzzled!

constitute collective action by the pharmacists on the one hand, and the third party administrator on the other. From the viewpoint of the antitrust laws, a combination engaged in price fixing would have been created by these activities.

Whether or not specific conduct constitutes an antitrust law violation depends upon the facts and circumstances of each case. However, there is some conduct that should be avoided because it may invite an antitrust investigation or because it may invite unwarranted litigation. Both of these reactions are expensive and, therefore, the Association will not permit any of its representatives to participate in a discussion which might give the appearance of a collective price fixing agreement or a discussion that might have the appearance of constituting a group boycott or a threat of a boycott.

Boycotts are collective refusals to deal. The antitrust laws prohibit collective pharmacist refusals to participate in any program or to fill prescriptions. Each pharmacist has the inalienable right, providing he is acting alone and on his own initiative and without any suggestion or understanding from some other pharmacist or from his Association, to refuse to sign a contract agreeing to participate in a specific third party program. Similarly such a pharmacist has the right to adopt a policy of not accepting as patients persons whose prescriptions are going to be paid for by certain groups. But this cannot lawfully be done collectively. Furthermore, the law cannot be circumvented by making collective action appear to be the numerous individual decisions of individual pharmacists. What determines whether the action is collective or unilateral depends on all of the circumstances. The antitrust investigator seeks to determine, after the fact, whether the action has been taken by the individual pharmacist without any suggestion or encouragement from other pharmacists or



from a pharmacist association. Accordingly, this Association or any state association must avoid adopting resolutions or taking collective positions respecting opposition to certain amounts of professional fees or encouraging members to terminate their participation in a specific program. These could be considered as collective actions.

---

**“Antitrust laws permit patients to unite to obtain their prescriptions through a Third Party Program while denying the pharmacists the same opportunity to unite in arriving at a determination as to what a fair price should be for their professional services.”**

---

I am mindful of the frustrations experienced by pharmacists in dealing with third party programs. I appreciate your difficulty in accepting the concept that the antitrust laws permit patients to unite to obtain their prescriptions through a third party program while denying the pharmacists the same opportunity to unite in arriving at a determination as to what a fair price should be for their professional services. But the law distinguishes between collective action by competitors and collective action by individuals who are not in economic competition with one another to achieve a goal for their common good as consumers. Accordingly, you are well advised to use your energies and wisdom to learn how to survive economically within the prescriptions of the antitrust laws rather than to spend that same time and energy fighting the legal concept. We must accept the concept that the antitrust laws prohibit pharmacists from determining, collectively, what a reasonable fee would be for their services and from negotiating collectively, either through their association or through a representative as to what a reasonable fee should be for their services.

---

**“... The decision to decline to participate must be made unilaterally without any encouragement or without any assurance, directly or indirectly, of what other pharmacists are going to do. As harsh or undesirable as that may appear to be, pharmacists must accept that as the law or face unpleasant consequences.”**

---

Associations are also prohibited from indirectly informing pharmacists that if they refuse to participate in a particular third party program, they will be joining other members of their association or other pharmacists who intend to decline to participate. The decision to decline to participate must be made unilaterally without any encouragement or without any assurance, directly or

indirectly, of what other pharmacists are going to do. As harsh or undesirable as that may appear to be, pharmacists must accept that as the law or face unpleasant consequences.

As I said before, this Association can lawfully provide each one of its members with sufficient economic data and economic information to permit that pharmacist to exercise his own individual, prudent judgment to determine whether or not he will accept the professional fees offered by specific third party plans. Conceivably and theoretically, when enough pharmacists acting individually notify a third party administrator that they deem the professional fee inadequate, such action is bound to have an effect on the third party administrator.

Unfortunately, the particular pharmacist has to act without any assurance of how his competing colleagues are going to react. He has to rely only on the assumption that other competing pharmacists will also exercise prudent judgment. He has to be confident that if he deems it unprofitable to participate in a third party plan, so will others. Alternatively, he has to conclude that he will not participate because it is unprofitable even though others might be willing to work nor nothing, in effect. But he cannot, without violating the law, gain that confidence by giving or receiving assurances of how competing pharmacists will act. There is no lawful way that collective action can be made to appear to be unilateral action. The action to be taken by pharmacists must truly be on their own.

---

**“The Association cannot, under the guise of furnishing economic data or information, at the same time make innuendoes, between the lines, or furnish assurances of collective action. The actions of pharmacists must truly be unilateral.”**

---

The only aid and assistance that they can get from their association is to know that the economic data and information which they receive from the Association is the same information that their colleagues receive. Beyond that, their decisions must be made by them alone. The Association cannot, under the guise of furnishing economic data or information, at the same time make innuendoes, between the lines, or furnish assurances of collective action. The actions of pharmacists must truly be unilateral.

Although what I have just said might not appear to be very encouraging, I would like to end on a constructive note.

The Association can lawfully furnish its members with economic data and cost accounting procedures to enable them to make informed decisions. At the same time, they can lawfully provide economic information to third party administrators to enable them to offer fair and reasonable fees. This can lawfully be done as long as the final decision remains with the third party programs on the one hand, and the individual pharmacist on the other.

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## Meet our 1980 Pharmacy Consultant Panel.



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Minnesota Pharmaceutical Assoc.  
Minneapolis, Minnesota



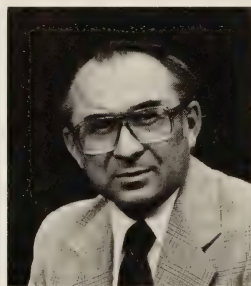
Harold H. Wolf, Ph.D.  
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University of Utah  
Salt Lake City, Utah



Nelson E. Taylor, R.Ph.  
Community Pharmacist  
Nampa, Idaho



Arthur Koorhan, R.Ph., Div. V.P.,  
Pharmacy Operations, Cunningham  
Drug Stores, Detroit, Michigan



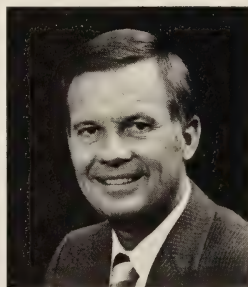
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Louisville, Kentucky



Marianne Ivey, R.Ph.  
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University of Washington Hospitals  
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## Summary

There is no such thing as a free lunch, we've all heard, but public relations offers a relatively inexpensive means for the small business owner-manager to get his or her business noticed and remembered. Sought intelligently and creatively, publicity may not be absolutely free, but recognition gained through thoughtful public relations may help you save some advertising dollars.

This Aid discusses practical ways in which small business owners can project their business images and establish a positive impression of their firms in the minds of the public. It offers tips for getting media attention, building an affirmative view of your firm within the community, and gauging how your business is viewed by the public.

Comprised in an overall, consistent promotion program (including advertising and personal selling) public relations can help a small firm build sales.

In today's ever tightening economy, the small businessperson must struggle for recognition.

A sound public relations program, often thought of as something only the giant corporation can afford, can give the added strength needed for the small business to become known and recognized by those people who use and need its product or service.

Public relations could very well be defined as "the projection of a desired image." Large corporations employ entire staffs devoted to this purpose, and many retain outside counsel to tell them how to build their images. But the same principles used by large organizations to project their images to millions of people around the world can be used by the corner grocery store owner to communicate his image to neighbors down the street.

### Pick Your Image

In developing your public relations program, the first step is to *pick your image*. Is your store a "local" grocery store? Is your firm's inventory "more complete?" Your staff "better trained?" Does your firm offer "dependable service?" Has it been in operation "longer?"

Your firm's image should reflect something unique about your business, something that makes it different from your competition. It goes without saying, the image you decide to present has got to be you. A false front will not hold up very long.

Ask yourself, "What do I want my customers to think of my business?" Decide on an overall image you would like people to have of your company and *write it down*. This will place the image clearly in your mind.

Remember, the image you choose for publicity must be tied to the program for the overall promotion of your business. There should be complete consistency between that image and the one you project in your advertising and in the personal selling of your staff. You must have one image.

### Select Your Public

Every one may not need or even be interested in your particular service or product. Therefore, the next task is to *select your specific public or publics*, the people you want to communicate your image to.

# PUBLIC RELATIONS for Small Business

By L. Kim Garvey  
Public Relations  
Practitioner  
Phoenix, Arizona

If you sell typewriters, it may not be profitable to project your image to people who do not type; but should you offer typing lessons, non-typers would be your main public.

Ask yourself: "Who are my present customers? Who are my past customers? Who are my potential customers? Who are the other people that should know about my business?"

This last question is often overlooked. The concept of "opinion leadership" is well understood and used by communications experts and can be valuable to the small businessperson.

This group of opinion leaders should include people who influence the opinions and attitudes of others; for example, the mayor, city council, business leaders, legislative representatives, civic club leaders, area media representatives (newspaper editors and publishers, television and radio station owners and managers), school board members, teachers, and student leaders.

These people may never have a need for your product or service, but they will influence members of your key publics. These opinion leaders also wield legislative influence over how businesses are operated and regulated.

### Choose Your Media

Next, *choose the media* through which you will communicate information about your firm and its image. Ask "Where do my customers and other publics obtain information?"

A sample listing could include: trade publications, television newspapers, radio, brochures, special events (such as grand openings, tours, contests), slide presentations, speeches, personal letters, and meetings.

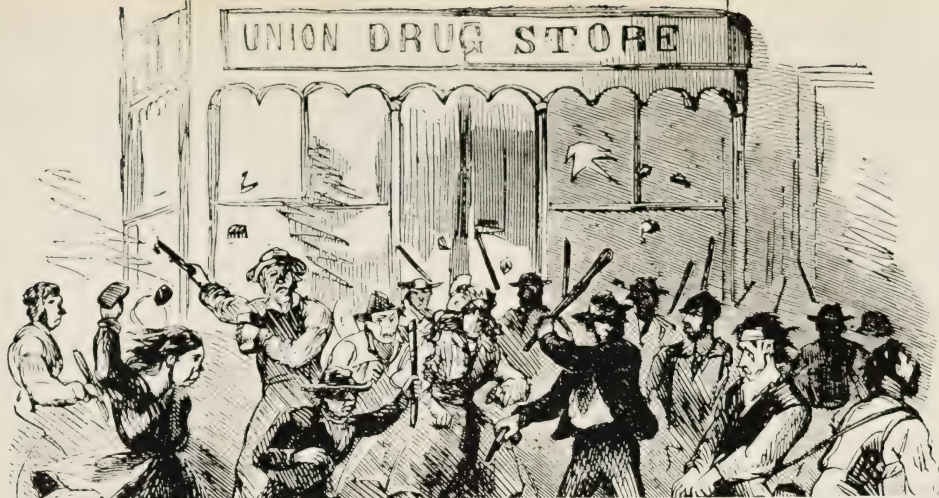
A discussion of some of the various media will shed further light on those you want to use.

**Newspapers.** The local newspaper offers many opportunities for projecting an image besides the purchase of advertising space. First get to know the editor, news editor, or city desk editor. This person decides what items are newsworthy. Find out who the editor is and introduce yourself. Try also to get some idea of what the editor regards as newsworthy.

The best way to provide information to an editor is through a news release or fact sheet. Standard practice is to ask yourself the Who, What, Where, When, Why, and How of the event or topic and answer these questions in the news story. Mention the more important items first, like what is happening, where, when, and to whom.

Mention what will happen at the grand opening and also include information about the business; that is, where the owner is from, the amount of experience in the business he or





she has, the major makes and models of equipment sold, the type of service or product sold, size of staff, etc.

For those who do not feel they can write a news story, a simple fact sheet serves much the same purpose. List on the left side of the paper the topics or questions you will answer: who, what, where, when, why, how, etc. To the right of each include a short explanation.

Some of the items you might write about include: new personnel announcements, opening of additional offices, introduction of new products or services, increasing inventory size, new construction, anniversaries, announcements of major sales or product success stories, charity gifts, or any newsworthy event that can contribute to the image you wish to present.

A photograph of the event, firm, or person involved may also be of interest to the newspaper. Often local papers will take their own photographs.

You won't usually get worthwhile coverage in any medium unless what you are presenting is newsworthy in itself or is presented in such a way that it becomes newsworthy. Study your local papers and note what gets picked up in the local news on radio and television. Use your imagination.

One business owner got great coverage for a product he was promoting when his dog gave birth to nine puppies. He simply placed the product among the puppies, so when reporters took pictures of them — there was the product in the middle of each photograph.

Of course, this sort of technique should be used so it won't be detrimental to the image you wish to project. The puppy play, for example, certainly wouldn't enhance the image of an elegant jewelry store.

**Television and Radio.** Most television stations have morning or afternoon talks shows where a host or hostess discusses topics of interest. Study up on your particular field; become an expert, knowledgeable in your area. Contact the show host and explain the kind of product or service you sell and what you could discuss or demonstrate on the show that might be of interest to the viewers. These shows cannot be a commercial advertisement for your firm, but can deal with topics of general interest. Demonstrate painting tips if you sell paints, points to remember in taking care of your car if

you are a mechanic, or plant growing and care hints if you are a nursery owner.

An event or major product or service demonstration at your company location may be of interest to television news departments. They may also be interested in the new, unique, and different projects, hobbies, or outside interests of people. The same holds true if you plan to break the world's record for rocking in one of your store's rocking chairs.

Many radio stations have talk shows where they offer information to their listeners. Contact the station and see what shows it has that discuss general topics or offer consumer information. You may be able to go on an existing show or may propose a new show for the station.

Through activities like this, people will come to think of you and your firm as leaders or experts in a particular field of business. When they need a specific service or product, they may very well seek you out.

**Direct Mail.** Often you will have a message you want to communicate to a specific public or group. In this case direct mail can be a key medium.

Outline the information you want to send. Many times a simple flier, folded to fit into a number 10 envelope, will suit your needs.

If you foresee making a number of mailings, a small printing shop can offer the service of printing the flier, printing the names of the mailing list on address plates, and collating and mailing the flier.

Select your mailing list carefully and keep it up to date for additions and deletions.

These fliers can be coded with numbers. By asking customers to bring in the flier for a discount, you have a built-in method of evaluating its success.

Check with a printer and local post office before undertaking a direct mail campaign. They can offer valuable advice, including information on bulk mail permits, regulations, and costs.

**Speeches and Demonstrations.** A valuable method to become recognized as an opinion leader in your area of business is through speeches and "how-to" demonstrations.

Study current material on your field. Trade publications (magazines and newsletters from associations or companies



within the industry) are a good source of this material. The local public library is another.

Select a topic that is of interest to *segments* of the general public; that is, business owners, high school students, science teachers, agriculture students, and so on. Prepare a short 15-20 minute presentation or demonstration explaining the topic in terms nonexperts can understand, especially covering current trends in the business. You may also wish to include several slides or photographs to accompany the presentation. Remember if any equipment is needed in a presentation, you should practice with it and check it over thoroughly before each use.

Contact area civic and business clubs, high schools, women's groups, Boy Scout troops, and so on to see if they would be interested in hearing the presentation.

Anticipate questions that might be asked by the group. Prepare a short flier printed with an outline of the general information presented, along with your name, address, and telephone number so people with further questions can contact you.

**Community Involvement.** Another method of becoming known as *the* person to contact for a particular service or product is through community service and involvement. One caution here, however. It is very easy to become overly involved in community activities.

Select those clubs, organizations, or projects that will gain you proper exposure — that means exposure to the specific publics who can be potential users of your product or service, or opinion leaders.

**Trade Publication Publicity.** Magazines and newsletters that deal with your specific area of business or trade can be a worthwhile means of gaining recognition.

Trade publications accept information on new employees, growth announcements, feature stories on companies, success stories on firms or products, new product or service announcements, etc. Look over those publications dealing with your trade or area of business. Note the kinds of stories they print.

**Special Events.** Open houses, plant or office tours, anniversary celebrations, demonstrations, displays, special commemorative days, holidays, dedications, contests, competitions, and so on, if planned thoroughly, can be useful means of gaining exposure for you and your business. Many of these events, in and of themselves, are newsworthy.

The key to a successful event lies in selecting one that "fits" your business personality or image and then planning all the details of the event.

### **Organize a Plan of Action**

After you choose your image, identify your publics, and select media, your next step is to *organize a plan of action*.

This plan should include several specific long and short range goals, definite time limits, and methods of acquiring feedback from the publics involved so you can evaluate the success of the plan.

In selecting an image for your firm, you have identified the unique points about your company — those points that make it different, better, more reliable, of greater service, and so on, in your public's eye. Keep in mind how these points position your firm among all companies like it.

Begin organizing your plan of action by simply stating the long range objective. For example, one such long range objective might look like this: Within the next 12 months, 50 percent of young people between the ages of 13 and 25 will recognize Ace Clothes as having the best selection of sportswear in town.

The short range goals can be stated similarly. Continually evaluate them to make sure that they continue to fit your particular needs.

Next, list in chronological order the various particular needs.

Next, list in chronological order the various projects you wish to undertake. A sample listing might include: news release on planned expansion, open house for vendors, appearance on local television show, radio show, tour high school with demonstration, third anniversary celebration, direct mail flier, United Fund Drive, trade story on new products.

Plan each project separately. Include time, place, and date of the event, who will be involved, a projected budget, how the event will be publicized, and what will happen.

At first, undertake only one project or event at a time, until you begin to feel some confidence. Then you should go for maximum impact through a planned and concentrated effort, since one isolated event or a few fragmented attempts will probably not attract much attention.

Each of these activities should make your public more aware of your product and service and support the image you have selected.

### **Evaluate Your Successes**

Research tools to evaluate your program can be simple yet effective. They include personal interviews with customers, short questionnaires sent in the mail to customers, a suggestion box, questions asked at demonstrations or speeches, talks with neighboring firms, candid interviews with the man on the street, group discussions with employees and customers, reaction sheets that customers can fill out at a point of sale, return-mail postcards included with products purchased, and telephone surveys.

The more feedback received from publics regarding their feelings about you and your firm, the better you will be able to see if you are meeting your goals.

### **Part of the Whole**

Careful and realistic selection of a company image, identification of key publics important to firm, choice of media, formulation of a plan, and evaluation may very well provide the competitive "edge" needed by the smallest and largest companies.

Your public relations program (and the publicity it generates) must be orchestrated with your advertising and personal selling efforts. It must complement them; they must complement it. All of them must grow out of your business's strengths and your knowledge of your markets.

What your particular publics think about you and your business directly influences their decision to buy. Here lies one of the strengths of public relations.

Article courtesy of U.S. Small Business Administration

Maryland Pharmaceutical  
Association



Delaware Pharmaceutical  
Society

## Announcement

The M.Ph.A. and D.Ph.S. will hold a joint Annual Convention June 21-25, 1981 at Ocean City, Maryland. Make plans now to join these two state professional societies of Pharmacists at the Carousel Hotel for a concentrated program of education and relaxation.



**DISTRICT PHOTO INC**  
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Beltsville, Maryland 20705  
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# R<sub>x</sub> For Profit



## **Lilly Digest**

An annual summary of financial operations of community pharmacies, arranged to allow comparison with any pharmacy's figures.

- Practical guide
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- Comparative reference

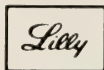


## **Lilly Analysis Service**

A detailed analysis available to individual pharmacy owners, with suggestions for improvements where indicated.

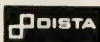
- Individually prepared
- Completely confidential
- No charge

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Milton J. Henrichs got his pharmacy degree at the University of Wisconsin in 1944. He joined Abbott in 1947 as a medical representative and rapidly rose through the ranks, becoming divisional president in 1972.

## Meet Milt

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And he's interested in you.

He's familiar with many of your problems—having been an Abbott Representative and District Manager for 16 years.

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0013324

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Sure, you're busy. But you take time for those who want to see you. Mrs. Osgood with her first prescription for an antidepressant. Jack Leland with a problem he's embarrassed about. The Williams youngster with asthma. Time out that's time well spent. With your patients. Your neighbors. They count on the counsel and reassurance you can give. That counter-side manner that makes you so much more than just another businessman in town.

We try to help you by providing quality products, policies and pertinent information—like Pharmascan®, which is distributed by our Representatives, assistance for many Continuing Education seminars, and a host of other educational materials that touch on all aspects of your profession. It's our way of recognizing your vital contribution to community health care.

398-2633-A



# CECC Seminar A Success



Peter P. Lamy, Ph.D., Chairman of the Department of Pharmacy Practice and Administrative Science, served as moderator for the Continuing Education Coordinating Council's program on Parenteral Nutrition.



The program was held October 16, 1980 in the Kelly Memorial Building and those in attendance gave excellent evaluations.



Bonnie Levin, PharmD., Clinical Pharmacist from Good Samaritan Hospital, discussed product formulation and additives, and Monitoring parenteral nutrition solutions.



Debra Naccarto, M.S., Division Administrator for Nutritional Support Services at the University of Maryland Hospital, discussed nutritional assessment, the diagnosis of malnutrition and the decision process for feeding patients.

This space  
donated by  
**Paramount  
Photo Service**





# Update of FDA Approved Drugs from National and Premo

Refer to August, 1980 issue for a complete list

Dear Mr. Banta,

Recently we have received approval from the Federal Food and Drug Administration in the form of an abbreviated New Drug Application for Hydroxyzine HC1 Syrup. Additionally, the FDA has also approved our form 6 for Erythromycin Ethylsuccinate Oral Suspension 200 mg/5 ml. Enclosed is the updated list of approved ANDA's.

Please add these two additional drug products to the list of FDA Approved Drugs when you publish again.

Also, please correct the drug product labeled "lidocaine suspension" which was published in *THE MARYLAND PHARMACIST*, August, 1980. It should read "Lidocaine HC1 Viscous, 2%".

Thank you for your assistance.

Dear Mr. Banta,

The following Premo products have received FDA approval:

Ampicillin Capsules, 250 and 500 mg  
Ampicillin Suspension, 125 mg/5cc, 250mg/5cc  
Amoxicillin Capsules, 250 and 500 mg  
Cephalexin Capsules, 250 and 500 mg  
Chlordiazepoxide HC1 Capsules, 5, 10 and 25 mg  
Chlorpropamide Tablets, 250 mg  
Dipyridamole Tablets, 25 mg  
Diphenhydramine HC1 Capsules, 25 and 50 mg  
Doxycycline Hyclate Capsules, 100 mg  
Erythromycin Stearate Tablets, 250 mg  
Folic Acid Tablets, 1 mg  
Hydralazine HC1 Tablets, 25 and 50 mg  
Hydrochlorothiazide Tablets, 50 mg  
Hydrocortisone Tablets, 20 mg  
Imipramine HC1 Tablets, 25 mg  
Meprobamate Tablets, 200 and 400 mg  
Myco Triacet Cream  
Myco Triacet Ointment  
Nitrofurantoin Tablets, 50 and 100 mg  
Nystatin Cream, Ointment, Oral Tablets, and Vaginal Tablets  
Oxytetracycline HC1 Capsules, 250 mg  
Potassium Phenoxyethyl Penicillin Solution, 125 mg/5ml and 250 ml/5ml  
Prednisolone Tablets, 5 mg  
Prednisone Tablets, 5 mg  
Probenecid with Colchicine Tablets  
Propoxyphene Compound 65 mg Capsules  
Propoxyphene HC1 Capsules, 65 mg  
Tetracycline HC1 Capsules, 250 mg  
Triacet Creams, .025%, .01% and .05%  
Triamcinolone Tablets, 4 mg

Premo products with FDA approval:

## Veterinary Products

Chloramphenicol Veterinary Capsules, 50, 100, 250 and 500 mg  
Tetracycline HC1 Veterinary Capsules, 250 mg

As you are aware, there are many products on the market at the time which are not in violation but do not require approved drug applications. Premo manufactures the following "Exempt" products, in the event that you reconsider and publish these as well:

## "Exempt" products:

ActiPrem Tablets  
Decon-Aid Capsules  
Decon-Tuss Capsules  
Phenatapp  
Chloramphenicol  
Papaverine  
Chlorzoxazone with APAP

Best regards,

Valerie Marzani  
Assistant — State Regulatory Affairs  
Premo pharmaceutical laboratories, Inc.

## APPROVED ABBREVIATED NEW DRUG APPLICATIONS

FDA	REG. NO.	DATE APPROVED
1 — Acetaminophen w/Codeine Elixir	ANDA #85-861	6/20/78
2 — Acetaminophen w/Codeine Susp.	ANDA #85-883	1/08/79
3 — Butabarbital Sodium Elixir	ANDA #85-873	5/17/78
4 — Cyproheptadine HC1 Syrup	ANDA #86-833	4/16/80
5 — Dexamethasone Elixir	ANDA #84-754	9/21/76
6 — Dicyclomine Syrup	ANDA #84-479	1/26/75
7 — Dimenhydrinate HC1 Elixir	ANDA #80-773	3/30/79
8 — Diphenhydramine HC1 Elixir	ANDA #80-763	5/25/76
9 — Diphenoxylate w/Atropine Soln.	ANDA #85-746	2/23/78
10 — Erythromycin Ethylsuccinate Oral Suspension 200 mg/5 ml	FORM 6 #62-200	7/28/80
11 — Hydroxyzine HC1 Syrup	ANDA #86-880	7/17/80
12 — Isoproterenol Aerosol	ANDA #85-904	6/12/79
13 — Lidocaine HC1 Viscous, 2%	ANDA #86-578	5/09/80
14 — Piperazine Citrate Syrup	ANDA #80-774	7/06/76
15 — Promethazine Syrup (25 mg.)	ANDA #84-772	11/14/78
16 — Promethazine Syrup (6.25 mg.)	ANDA #85-953	8/21/78
17 — Selenium Sulfide 2 1/2%	ANDA #84-394	5/14/76
18 — Tetracycline Syrup	FORM 6 #60-633	1970
19 — Theophylline Elixir 80 mg./15 ml.	ANDA #85-863	3/16/79
20 — Triple Sulta Suspension	ANDA #80-280	6/02/76
21 — Tnprodilone HC1 Syrup	ANDA #85-940	7/13/79

Sincerely,  
NATIONAL PHARMACEUTICAL MFG. CO.

Jim Allen  
Senior Chemist

# YOU CAN HELP!

To be more effective in meeting the needs of the pharmacists in Maryland, I am asking you to list five areas that MPhA should attempt to resolve:

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_
4. \_\_\_\_\_  
\_\_\_\_\_
5. \_\_\_\_\_  
\_\_\_\_\_

I appreciate your help.

**Frank Blatt**, *Chairman*  
*Membership Committee*

Please mail to:  
Frank Blatt, MPhA,  
650 W. Lombard St.  
Baltimore, Maryland 21201

# PRIZE TIME

## MEMBERSHIP CAMPAIGN

The Membership Committee of the M.Ph.A. is sponsoring a contest as part of the new 1981 membership campaign. The M.Ph.A. member that sponsors the most number of new members will win one free registration at the M.Ph.A. Annual Convention in beautiful Ocean City, Maryland. This year's membership application has a special blank for the name of the M.Ph.A. member that sponsors the application. This information blank is optional, but if your name appears there on the most number of new-member applications, you will win the free registration. Contact the office for supplies of the new M.Ph.A. membership application and start talking to your non-member pharmacist friends!

## LETTERS

Dear Dave:

I am in the process of putting together a history of the Maryland Society of Hospital Pharmacists from its inception in 1944 to the present. I would request that you call to the attention of your readers that any material they may have in this regard (photographs, printed matter, etc.), particularly relating to the earlier years, would be greatly appreciated. This may be forwarded to me at 503 Joppa Farm Road, Joppa, Maryland 21085. Thanks.

Sincerely

Normand A. Pelissier, MBA  
Director of Pharmacy Services  
The Union Memorial Hospital

## calendar

- Dec. 4 — MSHP meeting
- Jan. 10-17 — MPhA ARUBA TRIP
- Feb. 8 — BMPhA Annual Dinner Dance — start thinking about your table now
- Feb. 26 — CECC Program — "Geriatrics"
- Mar. 17 — CECC Program — "Primary Care" — Kelly Building
- Mar. 22 — AZO Fritz Berman Seminar — "Psychiatry, Neurology and the Pharmacist."
- Mar. 22-Apr. 2 — APhA Annual Meeting in St. Louis
- Jun. 19-21 — MSHP ANNUAL CONVENTION — Ocean City
- Jun. 21-25 — MPhA ANNUAL CONVENTION — Ocean City

Every Sunday Morning at 6:15 a.m. listen to Charles Spigelmirre on WCAO broadcast the Pharmacy Public Relations Program "Your Best Neighbor," the oldest continuous public service show in Baltimore.



# SAPhA Coffeehouse Produces High Note



The Coffeehouse was held in the lower level of the Kelly Memorial Building for pharmacy students, faculty and friends.



Robert (Buzz) Kerr, PharmD., Clinical Pharmacy Department Head, performed before the October 17th SAPhA Coffeehouse.



Lucy Mellington (right) and friend, performed a quieter set of folk songs.



(left to right) Orin Smith, Anne Meyers and Rick Thompson (4th year) combined to give a series of professional numbers before the overflow audience.



Members of the AZO Fraternity performed their hit song, "Crammin My Life Away."

# Some of the best served Pharmacies in America are located here.



## This is Drug House territory!

If your Pharmacy is located in the greater middle Atlantic states, we're neighbors! Our divisions in Philadelphia, Harrisburg, Wilmington, Baltimore, and Johnstown serve these areas with prompt delivery of our full line of quality pharmaceuticals and health and beauty aids. We are a large multi-branch wholesaler and, you can rely on our substantial inventories and 150 years experience in drug and HBA merchandising. Because we inventory more, you can

inventory less. That's one way you can save money and have the products your customers want when they need them. Our management services give you "up-to-the-minute" techniques on inventory control, cash flow, pricing and other methods of managing your business for greater profits.

Call your local division today and find out how you too can become one of the best served pharmacies in America!



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Neil Smith



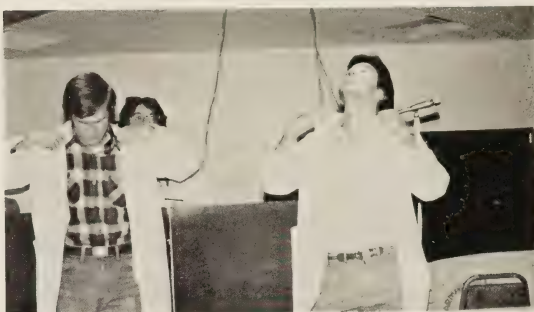
# Rho Chi Pharmacy Olympics



The Olympics were held at the Student union. The contest also included a Pharmacology rat race with wagers on the fastest rat.



The Pharmacy Olympics sponsored by Rho Chi was held October 17th. Here Carl DeRito (left) and Dr. Dean Leavitt pour from the big bottle to the little bottle under time pressure.



John Connley (left) and "Disco" Tony Newman (right) prepare for the ointment Tube competition.



Mike Ball (left) and Mattie Feinberg (right) compete head to head in the pour and count competition.



Contestants from various pharmacy organizations line up at the starting line with encouragement from spectators.



Dr. Ralph Shangraw has a little difficulty with the required lab coat in the ointment tube contest.

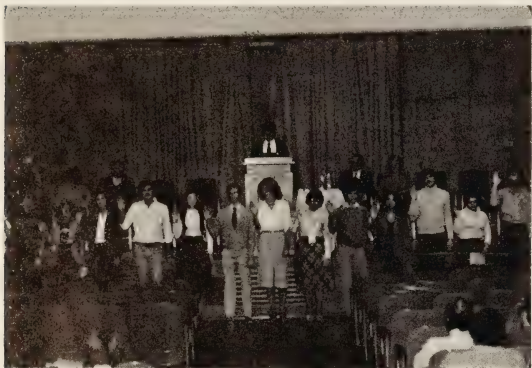


Terry LiVolsi (left) and Nancy Baros (right) compete in the event where neatness counts.





Maureen Fink, Executive Director of the Delaware Pharmaceutical Society delivered the featured address at the Pharmacy Honors Convocation held October 7th.



Pharmacy student leaders take their oath of office at the awards ceremony.



Donald O. Fedder, (third from the right) the 1980 recipient of the Bowl of Hygieia from Maryland, is shown at the A.H. Robins Company where he and other recipients were honored. Also pictured are (left to right) Joe Cuellar, Florida; Alan Vogengerg, Pennsylvania; Mary Munson Runge, Chairman of the A.Ph.A. Board; Robert Ludlum, Michigan; and Ronald Gieser, Texas.

# **TYLENOL®** with **Codeine** tablets elixir



**mild to  
moderate pain**

**moderate to  
severe pain**

## **Summary of Prescribing Information**

### **Description**

**Tablets:** Contain codeine phosphate\*: No. 1—7.5 mg. (¼ gr.); No. 2—15 mg. (½ gr.); No. 3—30 mg. (¾ gr.); No. 4—60 mg. (1 gr.)—plus acetaminophen 300 mg.

**Elixir:** Each 5 ml. contains 12 mg. codeine phosphate\* plus 120 mg. acetaminophen (alcohol 7%).

\*Warning: May be habit forming.

**Actions:** Acetaminophen is an analgesic and antipyretic; codeine an analgesic and antitussive.

**Contraindications:** Hypersensitivity to acetaminophen or codeine.

**Warnings:** *Drug dependence:* Codeine can produce drug dependence of the morphine type and may be abused. Dependence and tolerance may develop upon repeated administration; prescribe and administer with same caution appropriate to other oral narcotics. Subject to the Federal Controlled Substances Act.

*Usage in ambulatory patients:* Caution patients that codeine may impair mental and/or physical abilities required for performance of potentially hazardous tasks such as driving a car or operating machinery.

*Interaction with other CNS depressants:* Patients receiving other narcotic analgesics, general anesthetics, phenothiazines, other tranquilizers, sedative-hypnotics or other CNS depressants (including alcohol) with this drug may exhibit additive CNS depression. When such a combination is contemplated, reduce the dose of one or both agents.

*Usage in pregnancy:* Safe use not established. Should not be used in pregnant women unless potential benefits outweigh possible hazards.

*Pediatric use:* Safe dosage of this combination has not been established in children below the age of three.

**Precautions:** *Head injury and increased intracranial pressure:* Respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a pre-existing increase in intracranial pressure. Narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

*Acute abdominal conditions:* Codeine or other narcotics may obscure the diagnosis or clinical course of acute abdominal conditions.

*Special risk patients:* Administer with caution to certain patients such as the elderly or debilitated and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, and prostatic hypertrophy or urethral stricture.

**Adverse Reactions:** Most frequent: lightheadedness, dizziness, sedation, nausea and vomiting, more prominent in ambulatory than nonambulatory patients; some of these reactions may be alleviated if the patient lies down. Others: euphoria, dysphoria, constipation and pruritus.

**Dosage and Administration:** Dosage should be adjusted according to the severity of the pain and the response of the patient. It may occasionally be necessary to exceed the usual dosage recommended below in cases of more severe pain or in those patients who have become tolerant to the analgesic effect of narcotics. **TYLENOL with Codeine tablets** are given orally. The usual adult dose is: Tablets No. 1, No. 2, and No. 3: One or two tablets every four hours as required. Tablets No. 4: One tablet every four hours as required. **TYLENOL with Codeine elixir** is given orally. The usual doses are **Children (3 to 6 years):** 1 teaspoonful (5 ml.) 3 or 4 times daily; **(7 to 12 years):** 2 teaspoonful (10 ml.) 3 or 4 times daily; **(under 3 years):** safe dosage has not been established. **Adults:** 1 tablespoonful (15 ml.) every 4 hours as needed.

**Drug Interactions:** CNS depressant effect may be additive with that of other CNS depressants. See Warnings. For information on symptoms/treatment of overdose, see full prescribing information.

Full directions for use should be read before administering or prescribing.

TYLENOL with Codeine tablets are manufactured by McNeil Laboratories Co., Dorado, Puerto Rico 00646.

Caution: Federal law prohibits dispensing without prescription.

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08721

**McNEIL  
PHARMACEUTICAL**  
McNEILAB, INC.  
Spring House, PA 19477

# ALL SHE CAME IN FOR WAS **TYLENOL®** with **Codeine**

Tablets contain codeine phosphate\* No. 1 7.5 mg, 1/8 gr. No. 2 15 mg, 1/4 gr. No. 3 30 mg, 1/2 gr. No. 4 60 mg (1 gr) — plus acetaminophen 300 mg. **Elixir**: Each 5 ml contains 12 mg codeine phosphate\* plus 120 mg acetaminophen — alcohol 7% \*Warning: May be habit forming

## ■ **TYLENOL with Codeine brings 2 million people per month into pharmacies nationwide†**

— people who buy your health and beauty aids, your first aid supplies, your appliances, anything on your shelves and in your aisles!

## ■ **Filling TYLENOL with Codeine Rx's as written means:**

— excellent gross profit margin: average of 51%!‡  
— insignificant generic cost savings to customers.  
On an average Rx of 25 tablets‡:

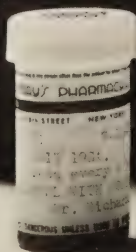
TYLENOL with Codeine #3 tablets . . . \$4.35  
Generic substitute . . . . . \$4.08

— plus the McNeil commitment to research for new products ensuring the future — ours and yours.

†BASED on new and refill prescriptions, 1st Quarter 1980

‡Independent Market Research Study-263 stores, June 1980

**Top traffic builder  
because it's  
#1 in new Rx's  
for pain.†**



**MCNEIL  
PHARMACEUTICAL**  
MCNEILAB, INC.  
Spring House, PA 19477



# ABSTRACTS

Excerpted from PHARMACEUTICAL TRENDS, published by the  
St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor  
and Leonard L. Naeger, Ph.D., Associate Editor

## ORAL NITRATES:

In the late 1960's and throughout the 1970's, the use of oral organic nitrates in the treatment of angina was questioned. It was difficult to find any active compounds in the plasma of patients receiving the drugs orally and it was noted that this was due to rapid inactivation of the drug by the liver before it could gain access to the systemic circulation. More recent studies indicate that some benefit may be achieved if higher than recommended doses are used. The beneficial effects may last from 1 to 6 hours. It is still unclear as to what side-effects will be present when these drugs are used at high doses for long periods of time. *N ENG J MED*, Vol. 302, #22, p. 1234, 1980.

## ACNE:

Over 100 patients with mild to moderate acne vulgaris were placed on one of three regimens and their progress monitored for 16 weeks. Two groups utilized systemic tetracyclines with either topical tretinoin or with abrasive cleansers. The other group utilized topical tretinoin, benzoyl peroxide and water avoidance. The last group showed the greatest amount of improvement. The authors suggest topical therapy be substituted for systemic tetracycline therapy because topical therapy is more effective and less likely to produce complications. *J AM MED A*, Vol. 243, #6, p. 1640, 1980.

## TRIMETHOPRIM:

Cotrimoxazole (Bactrim — Septra) is a combination of trimethoprim and sulfamethoxazole. Sulfamethoxazole (Gantanol) is available as a single drug entity, but until recently trimethoprim was available only in the combination product. Concern has been expressed about reports of resistance developing to the single drug entity when it was in use in Europe. A study conducted in Great Britain has found that no resistance developed in a group of 279 patients and noted that the side-effects of the trimethoprim alone were less than with the combination product. Thus these authors suggest that most chest and urinary tract infections previously treated with the combination product be treated with trimethoprim alone. Trimethoprim is marketed in the United States under the trade names Proloprim and Trimplex. *LANCET*, Vol. I, #8181, p. 1270, 1980.

## OTOTOXICITY:

Various drugs can produce damage to the function of the auditory nerve. The aminoglycosides produce irreversible damage by selectively destroying the sensory hair cells of the organ of Corti. The most sensitive cells are those in the basal turn of the cochlea, the area where high pitched sound is

processed for transmission to the brain. The hair cells do not regenerate and the damage caused by the aminoglycosides is irreversible. The loss may appear after the period of drug administration and may be unilateral. Cis-platinum may also produce similar effects. Hearing loss induced by the loop diuretics tends to be reversible unless the aminoglycosides are also being administered. The vestibular portion of the inner ear seems not to be affected. Salicylates also produce hearing loss which is dose dependent. This can occur when plasma salicylate levels reach 30 to 40 mg% but it is reversible. *DRUGS*, Vol. 19, #6, p. 412, 1980.

## GUILLAIN-BARRE SYNDROME:

Patients in Ohio who received an injection of A/New Jersey influenza vaccine were found to have a higher incidence of Guillain-Barre Syndrome than those who did not receive the inoculation. The symptoms which are caused by inflammatory neuritis, appear 2 to 3 weeks after the injections. It is difficult to accurately assess the benefit/risk ratio because the vaccine undoubtedly has helped the elderly withstand the epidemic. Systematic surveillance is required for rare serious reactions to all types of vaccines. *J AM MED A*, Vol. 243, #24, p. 2490, 1980.

## BREAST VS. BOTTLE FEEDING:

Endocrine responses to breast and bottle feeding vary and may help explain the increase in deposition of subcutaneous fat and stool frequency noted between infants fed the two ways. Bottle-fed infants may experience increased concentrations of plasma insulin, motilin, enteroglucagon, neurotensin, and pancreatic polypeptide. In addition, basal levels of gastric inhibitory polypeptide, motilin, neurotensin and vasoactive intestinal peptide were also higher in the bottle-fed group. Investigators will study the possible consequences of these changes as the infant ages. *LANCET*, Vol. I, #8181, p. 1267, 1980.

## FLUNISOLIDE:

Patients with perennial and seasonal allergic rhinitis may require steroids to help control their symptoms. The long-term use of systemic steroidal therapy is associated with the development of Cushingoid symptoms so an effort has been made to develop steroids for inhalation. Flunisolide, a derivative of flucinolone acetone, is effective when inhaled, but does produce alterations in the hypothalmo-pituitary-adrenal axis. This would prevent symptoms of adrenal insufficiency from appearing when the drug is discontinued. *DRUGS*, Vol. 19, #6, p. 397, 1980.



#### **AMPICILLIN:**

The use of a continuous intravenous drip of ampicillin at a constant rate should produce similar blood levels in different patients if the dose is based on body weight. A study involving the use of this antibiotic in patients with meningitis has failed to produce the consistent readings generally thought to be present. It is suggested that a sample of plasma be removed for analysis to insure that adequate concentrations of the drug are present. *BR MED J*, Vol. 280, #6224, p. 1164, 1980.

#### **PEPSIN:**

Pepsin has been associated with peptic ulcer disease for many years, but the only way in which pepsin activity can be reduced is to alkalinize the stomach. This is not always easy to accomplish so new ways of inhibiting its activity have been explored. Pepsinogen is activated to release pepsin and a pepsin-inhibitory peptide. Since the inhibitor protein is composed primarily of lysine and arginine, various lengths of synthetic polylysine polypeptide were used to see if this activation could be inhibited. It appears that certain lengths of the polylysine will react with the carboxyl anions of pepsin and produce inactivation of the enzyme. *J PHARM PHA*, Vol. 32, #4, p. 248, 1980.

#### **AZLOCILLIN:**

A new antipseudomonal penicillin, azlocillin, has been studied to determine if it would be removed from the body by dialysis. Approximately 30% of an intravenous dose of the semisynthetic antibiotic can be recovered from dialysate during a four-hour period of hemodialysis. This would require the supplementation of a one gram dose after dialysis in order to maintain an adequate plasma concentration of the antibiotic. *CLIN PHARM*, Vol. 27, #4, p. 563, 1980.

#### **CARBON DIOXIDE LASER:**

A patient with a brain tumor was exposed to a carbon dioxide laser to vaporize tissue generally considered inoperable. The cavity filled with normal tissue and the procedure was deemed a success. *J AM MED A*, Vol. 243, #18, p. 1791, 1980.

#### **PHENCYCLIDINE USE:**

Investigators have developed a radioimmunoassay method which can be used to detect the presence of phencyclidine (PCP) in unwashed hair. Samples which contain the drug indicate recent use. Washed hair which is found to contain PCP indicates the presence of a drug abuse situation. PCP is concentrated in the hair and careful analysis can generally determine the frequency and extent of abuse. *AM FAM PHYS*, Vol. 21, #3, p. 161, 1980.

#### **OBESITY:**

A group of 65 women participated in a study to determine if genetics played a role in the development of obesity. It seems apparent that there is a genetic predisposition to obesity, but it was unknown if this resulted from an increase in food intake or a decrease in the expenditure of energy. Results of this experiment indicate that slight variations are seen in energy expenditure between obese and non-obese

women, but the difference is insufficient to explain the variation in weight. These authors have concluded that the genetic predisposition favors increasing dietary intake. *LANCET*, Vol. 1, #8178, p. 1103, 1980.

#### **QUAZEPAM:**

A new benzodiazepine derivative has been compared to flurazepam (Dalmene) in animals and has been found to be slightly less effective than flurazepam. However, it also seems to produce less toxicity, especially ataxia. In humans, quazepam produced the desired effect without producing rebound insomnia when the drug was discontinued. The authors feel that the use of quazepam is less likely to cause rebound because it is metabolized to compounds which have long half-lives. The longer washout period allows for the natural benzodiazepine compounds in the brain to gradually build back to normal concentrations. *J CLIN PHAR*, Vol. 20, Part 1, #4, p. 184, 1980.

#### **DEATH FROM AN ANTIDOTE:**

Syrup of ipecac is frequently used as an emetic to promote removal of ingested toxins. Over the years some deaths have occurred because people accidentally substituted fluid extract of ipecac instead of the syrup. Other problems associated with the syrup of ipecac resulted when the drug was used to induce vomiting in patients who had taken overdoses of phenothiazines or other agents with strong anti-emetic properties. Recently the first death due to syrup of ipecac was reported in a woman who had taken 3 or 4 bottles routinely after meals to lose weight. *J AM MED A*, Vol. 243, #19, p. 1927, 1980.

#### **DIGOXIN-QUINIDINE INTERACTION:**

Some time ago it was recognized that concomitant administration of quinidine and digoxin (Lanoxin) would increase the plasma level of the glycoside. In order to determine if similar effects were produced by other antiarrhythmic agents, procainamide (Pronestyl) and disopyramide (Norpace) were given to patients stabilized on the cardiac glycoside. Levels of digitalis increased but not to the extent noted when quinidine was used. It is suggested that procainamide or diopyramide be employed for patients where problems associated with digitalis toxicity have been noted when quinidine was used. *ANN INT MED*, Vol. 92, #5, p. 605, 1980.

#### **CHOLECYSTOGRAPHIC AGENTS:**

Iodinated cholecystographic compounds have been thought to release inorganic iodine from the thyroid gland. A closer look shows that iodine is released in the form of tetraiodothyronine (T-4) from hepatic binding sites. The drugs also seem to inhibit the conversion of T-4 to triiodothyronine (T-3), the more active form of the hormone. Thyroid dysfunction after the administration of cholecystographic media may be caused by a mechanism more complex than originally postulated. *J CLIN INV*, Vol. 65, #5, p. 1032, 1980.

## VITAMIN B-15?:

Pangamic acid or calcium pangamate has been said to be a cure for cancer as well as other maladies, but it has also been shown to be carcinogenic in an in-vitro test for mutagenicity. Problems have also been discovered with regard to the contents of bottles labeled pangamic acid. The contents may vary widely with respect to analysis. It has not been found to be of value in treating any disease state. The substance was "discovered" by the same people who "blessed the world" with laetrile. *J AM MED A*, Vol. 243, #24, p. 2473, 1980.

## DENTAL CARIES:

A vaccine has been prepared which consists of purified proteins derived from *Streptococcus mutans* and initial studies show it to be effective in preventing dental caries in Rhesus monkeys. Animals receiving the injection experience a 70% reduction in dental caries. Investigators feel the use of a similar vaccine may have value in humans. *LANCET*, Vol. I, #8176, p. 995, 1980.

## GENTAMICIN-TOBRAMYCIN COMPARISON:

The aminoglycoside antibiotics are very useful in certain circumstances, but they are also quite toxic. The toxicity is usually associated with damage to the kidney and the auditory portion of the eighth cranial nerve. Two commonly used aminoglycoside antibiotics are gentamicin (Garamycin) and tobramycin (Nebcin). One of the two drugs was administered to 258 patients with serious infections and the toxicity produced by each agent was recorded. Clinicians report that the frequency of ototoxicity and severity of that side-effect were equal for both drugs. However, the authors found that although the renal toxicity produced by both drugs was comparable, tobramycin was less likely to produce this side-effect. *N ENG J MED*, Vol. 302, #20, p. 1106, 1980.

## DIAZEPAM-CIMETADINE INTERACTION:

Diazepam (Valium) and cimetidine (Tagamet) are two of the most commonly used drugs in this country today, and thus many people can be found who are taking both agents concomitantly. Studies made of the pharmacokinetic profile of diazepam in these patients suggest that cimetidine inhibits the metabolism of the minor tranquilizer. This is supported by the finding of elevated diazepam levels in patients taking cimetidine. Patients receiving both medications should be monitored closely for signs of diazepam toxicity. *N ENG J MED*, Vol. 302, #18, p. 1013, 1980.

## TRAZODONE (Desyrel):

Trazodone is a unique antidepressant used to treat patients who also have a strong anxiety component. Mead-Johnson & Co., is investigating the drug. *DRUG THER*, Vol. 10, #5, p. 9, 1980.

## ASPIRIN AND PLATELET AGGREGATION:

Normal volunteers received varying doses of aspirin in order to determine the lowest possible doses which would interfere with platelet aggregation. Doses as low as 81 mg/day inhibited the aggregation of the platelets for the duration of the platelet life. It seems that the platelet aggregation can be inhibited by doses even lower than those currently being

used. *CLIN PHARM*, Vol. 27, #6, p. 803, 1980.

## MATERNAL SMOKING:

Studies have indicated that certain people are more prone to develop cancer than others. One factor which some scientists feel influences this risk is exposure to compounds found in cigarettes during the fetal period. The author of this article states that "individuals transplacentally exposed to maternal smoking may be at increased cancer risk during adult life." *LANCET*, Vol. II, #8186, p. 123, 1980.

## COUNTERFEIT DRUGS:

Street drugs have often been misrepresented in order to make the buyer believe he is getting a certain drug at a bargain price. For instance, caffeine has been sold as amphetamine, local anesthetics as cocaine, and LSD as mescaline. Recently analysis of a methaqualone tablet stamped LEMMON-714 was found to contain phenylcyclidine. One should be aware of possible misrepresentation when any street drug is purchased. *JAM MED A*, Vol. 244, #4, p. 332, 1980.

## PSEUDOMEMBRANOUS COLITIS:

Antibiotic-associated pseudomembranous colitis is considered to be a fatal complication of certain types of antibiotic therapy. The condition is produced by a neutralizable toxin produced by *Clostridia difficile*. Identification of the toxin is needed because sigmoidoscopy and biopsy are not always reliable indicators of the problem. The condition generally responds well to the oral administration of vancomycin, 125 mg, qid, for 5 days. *DRUGS*, Vol. 20, #1, p. 49, 1980.

## CORRECTIVE SHOES:

The use of special corrective shoes and/or wedges has been a standard procedure in this country for some time. A retrospective study indicates that little evidence can be accumulated which shows these devices have any real value. Most often they are prescribed because a prescription is expected. Severe foot deformities need orthopedic surgical correction. If the child can walk or run normally, the situation will usually correct itself. It has been found that most foot deformities in adults are due to the constrictive effect of tight shoes during infancy. *BR MED J*, Vol. 280, #6231, p. 1556, 1980.

## TRIMAZOSIN:

Trimazosin is an alpha-adrenergic blocking agent which has been found to be useful in reducing cardiac work and thus may be of value in treating patients with chronic cardiac failure. The agent is thought to work in a manner similar to that exerted by prazosin (Minipres). *N ENG J MED*, Vol. 303, #5, p. 242, 1980.

## FLECAINIDE:

A new antiarrhythmic agent, flecainide, has been found to be effective in reducing cardiac arrhythmias in 10 patients. The drug has a unique structure and is being investigated by personnel of Riker Laboratories. Side effects during the limited trial were minimal. *CLIN PHARM*, Vol. 27, #4, p. 464, 1980.

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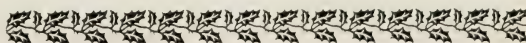
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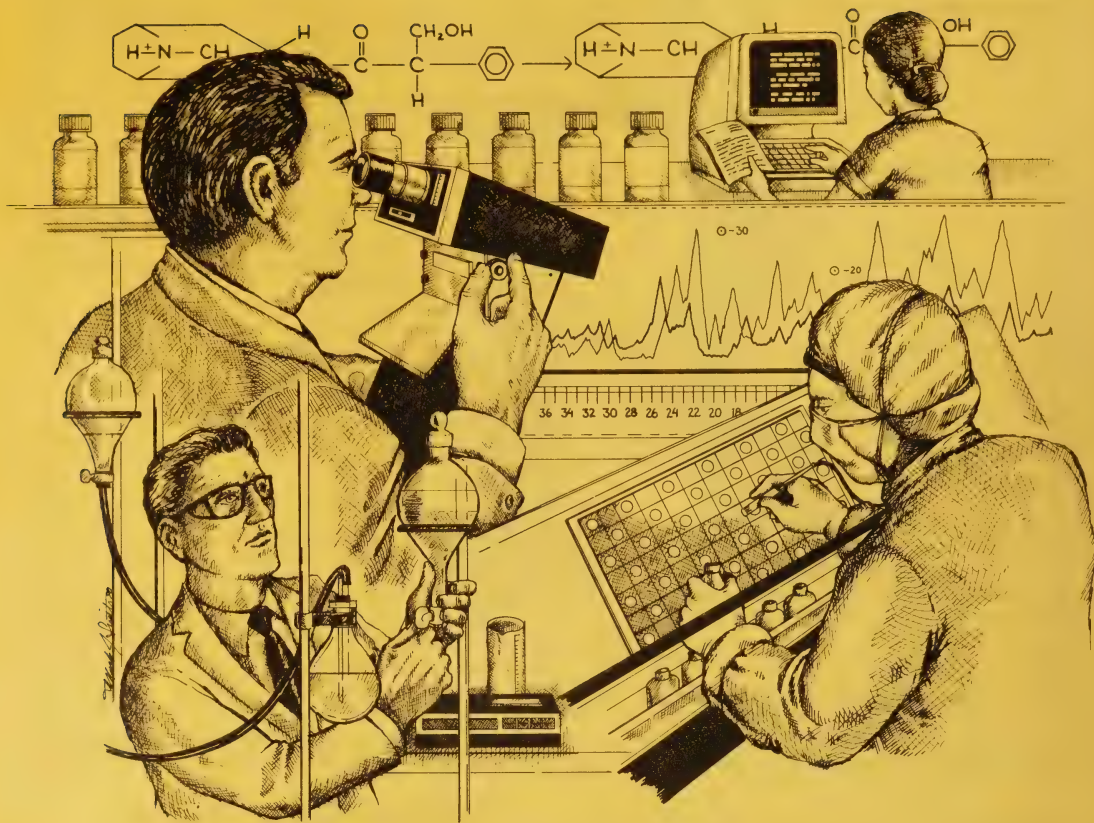
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**Captopril**

*—Craig Svensson*

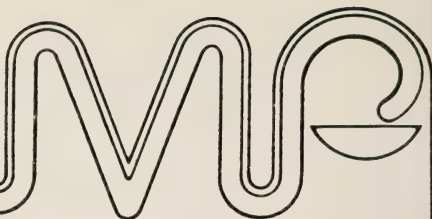
**Are Your Merchandise Lines  
Paying Their Rent?** *—Leo V. Aspinwall*

**Glaucoma**

**Dues?**

# THE MARYLAND PHARMACIST

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There are occasions when the Association works for the interests of pharmacists and achieves a measure of progress that may go completely unnoticed by the average member. Such was the case recently when a Baltimore HMO decided it wanted to use federal funds to build an in-house pharmacy even though there were ten pharmacists within 6,000 feet of the HMO. Two pharmacists who had volunteered to serve on their local HSA's, the health care planning organization, notified the Association of this situation and the unfair competition it represented. The Association appeared and testified at two HSA hearings. The HSA voted to disapprove the in-house pharmacy request and later the HMO abandoned the entire proposal.

I believe that this example illustrates some of the ways that the MPhA can work for the benefit of its members. The key here is the involvement of pharmacist members who were willing to serve in organizations representing themselves and the Association. These individuals and others are to be commended for taking the time to become involved. They are the main reasons that I believe the Association's future will continue to brighten. As we emerge from this holiday season, I would like to ask each of you to share, not only in the benefits of Association membership, but also in the responsibility for involvement.

*Samuel Lichter*



## An Orally Active Angiotensin-Converting Enzyme Inhibitor

By CRAIG K. SVENSSON

Pharm.D. Student

### Introduction

Hypertension is a disease which is associated with numerous morbid events. Studies have demonstrated that control of hypertension can significantly reduce the incidence of these morbid events. Unfortunately, not all hypertensive patients respond to currently available antihypertensive agents. For this reason the search for new and more potent antihypertensive agents has continued. One such agent that has come out of this search is captopril (SQ 14,225), an angiotensin-converting enzyme inhibitor. Captopril is currently undergoing clinical trials and may be released within the next year.

### The Renin Angiotensin System

Renin is a proteolytic enzyme produced in specialized cells in the afferent arteriole of the glomerulus known as the juxtaglomerular cells.<sup>1,2</sup> Once released, renin cleaves an alpha-2 globulin substrate from angiotensinogen to form angiotensin I. Angiotensin I is probably devoid of biological activity and it is converted to angiotensin II by a converting enzyme called the angiotensin-converting enzyme (ACE).<sup>3</sup> Angiotensin II is a potent vasoconstrictor and it also stimulates the adrenal cortex to release aldosterone. There is evidence that angiotensin II is converted to angiotensin III, which may be the actual agent that stimulates the release of aldosterone.<sup>4</sup>

While the role of the Renin-Angiotensin System in the pathogenesis of hypertension is a topic of much debate, it is clear from research that this system does play a role in the normal regulation of blood pressure.<sup>5</sup> Therefore, alteration or interference of this system may be one way in which hypertension can be treated.

### The Angiotensin-Converting Enzyme (ACE)

As stated earlier, the angiotensin-converting enzyme catalyzes the conversion of angiotensin I to angiotensin II. Early studies with the ACE indicated that it was a zinc containing enzyme similar to the pancreatic enzyme Carboxypeptidase A.<sup>4</sup> Utilizing substrates known to interact with Carboxypeptidase A, a model of the active site of the ACE was developed. The ACE was found to

have two actions: (1) to catalyze the conversion of angiotensin I to angiotensin II (2) to inactivate bradykinin.<sup>3</sup>

### Angiotensin Converting Enzyme Inhibitors

The first substrates found to inhibit ACE were peptides isolated from *Bothrops jararaca* and other snakes, which were found to be bradykinin potentiators.<sup>4</sup> Subsequently, a group of inhibitors were synthesized utilizing the proposed model of the ACE.<sup>6</sup> The peptides isolated from snake venom and earlier inhibitors that were synthesized, suffered from being inactive after oral administration. Another compound, captopril, was synthesized and found to be active orally. Captopril was found to inhibit the pressor response to exogenous angiotensin I in animals.<sup>7,8</sup> Further studies demonstrated its efficacy in several animal models of hypertension.<sup>8,9</sup>

### Captopril in the Treatment of Hypertension

Captopril was found to reduce the pressor response to exogenous angiotensin I in man.<sup>10</sup> In doses of 1, 2.5, 5, 10 and 20mg; captopril was found to produce a progressively greater inhibition as well as an increased duration of effect with increasing doses.

Captopril, in doses ranging from 400 to 1000 mg daily, was given to 12 hypertensive patients.<sup>11</sup> Six patients had essential hypertension, while the other six had renovascular hypertension. Captopril was found to significantly reduce blood pressure in both groups. Heart rate did not change significantly and orthostatic hypotension was not seen. Plasma renin activity during treatment with captopril was increased significantly in both groups, but patients with renovascular hypertension had a greater increase in plasma renin than patients with essential hypertension. Plasma aldosterone and plasma converting enzyme concentration decreased significantly in both groups. A transient increase in serum creatinine was seen in several patients.

A further study in 22 hypertensive patients, in whom treatment lasted for up to 17 months, confirmed the findings of the earlier study demonstrating captopril's efficacy as an antihypertensive agent.<sup>12</sup> These investigators found that increasing doses of captopril (25, 100 and 200mg) all

produced the same degree of fall in blood pressure, however, increasing doses prolonged the duration of the blood pressure reduction. Thus, in doses used clinically (25 mg and above), captopril's hypotensive action does not appear to be dose related, but its duration of action is. Maximal blood pressure reduction was found to occur within the first two hours of treatment. When used alone, captopril was found to increase the excretion of sodium. These investigators postulated that captopril's antihypertensive effect may not be totally explained by its blockade of angiotensin II formation, but that it may cause an accumulation of vasoactive bradykinin (which is a potent vasodilator). Subsequently, a recent study has demonstrated that plasma bradykinin levels are not changed significantly during treatment with captopril.<sup>13</sup> The lack of bradykinin accumulation suggests significant alternate pathways of bradykinin degradation.

One group of investigators studied 16 patients whose blood pressure was uncontrolled on a regimen of a diuretic, propranolol and hydralazine.<sup>14</sup> Captopril plus a diuretic controlled blood pressure in six of the sixteen; while the addition of propranolol was required in eight patients to control blood pressure or heart rate. In the remaining two patients blood pressure could not be controlled on a regimen of captopril, a diuretic and propranolol. These investigators also found that captopril's duration of action was prolonged with increased doses, but the degree of hypotensive response was not dose related.

Other studies have demonstrated captopril's efficacy in essential<sup>15 16 17</sup>, renovascular<sup>18 19</sup>, malignant<sup>20</sup> and hyponatremic hypertension.<sup>21 22</sup> Patients with hyponatremic hypertension appear to be very sensitive to captopril's antihypertensive activity and reports of hypotension after administration of captopril in normal doses have appeared in the literature.<sup>22</sup> Thus, these individuals need to be started at lower doses and titrated up more slowly. Captopril has also been found effective in combination with hydrochlorothiazide or furosemide in previously resistant hypertension.<sup>23</sup> The effects of captopril and hydrochlorothiazide are additive.<sup>13</sup>

### Captopril in Congestive Heart Failure

After acute administration, captopril was found to reduce mean arterial pressure, left ventricular filling pressure and mean right atrial pressure in patients with severe congestive heart failure.<sup>24</sup> At the same time, cardiac index and stroke index increased significantly, while the heart rate remained unchanged.

In subsequent studies it was demonstrated that captopril causes a significant reduction in mean arterial pressure and pulmonary capillary wedge pressure after a 25 to 50 mg oral dose. These indices were reduced to a maximum in one to two hours, and returned to baseline after about five hours.<sup>25 26</sup> In one study, four out of five patients with New York Heart Association Class III to IV congestive heart failure demonstrated a significant increase in maximal exercise tolerance after one month of treatment with captopril.<sup>25</sup> Another group of investigators reported three patients who demonstrated an increase in maximal exercise tolerance after treatment with captopril for an unspecified amount of time.<sup>26</sup>

A recent study of seven patients with Class IV congestive heart failure, who were followed for a mean of seven months, demonstrated sustained improvement in both subjective and objective parameters after treatment with captopril.<sup>27</sup> Six patients had a reduction in their New York Heart Association functional classification from Class IV to Class II, while the seventh patient was rated as Class III after treatment with captopril. The pulmonary capillary wedge pressure, heart rate, number of hospital admissions and number of days hospitalized were all significantly reduced. Creatinine clearance increased from a pretreatment value of 19.7 to 33.3 mg/dl (mean values) five to seven days after the start of therapy. Two patients developed hyperkalemia, which required hospitalization, while receiving captopril. Both patients were also receiving potassium supplements at the time.

### Pharmacokinetics

Captopril reaches peak plasma concentrations in 1.4 hours, which correlates well with its peak onset clinically.<sup>28</sup> It has a half-life of 4.5 hours and it is 23 to 30% bound to plasma proteins. While its excretion has not been totally elucidated, it appears to be eliminated primarily through the kidneys.

### Adverse Effects

The most common adverse reaction to captopril is the development of a rash and fever, which is usually reversible upon discontinuation of the drug or reduction of the dose.<sup>12 14 29 30</sup> This reaction has caused a ceiling of 450 mg per day to be placed on the drug. This ceiling may be unjustified however, since several patients have experienced the reaction at doses lower than 450 mg per day.<sup>29</sup> Thus, while the reaction may be dose related within an individual (since it usually disappears upon a reduction in dose), it may not be dose related in the population as a whole.

A transient loss of taste is another unwanted effect that has been reported with captopril.<sup>30 31</sup> This adverse effect may be due to captopril's binding of zinc containing elements. Proteinuria and a single case of nephrotic syndrome has been reported in association with captopril.<sup>32</sup> While a transient increase in serum creatinine has been reported by several investigators, only one case of significant renal dysfunction has been reported with the drug.<sup>11 23 30 33</sup>

Recently, a most disturbing adverse reaction has been the development of agranulocytosis in patients taking captopril.<sup>34</sup> Currently, 12 of the 2,000 patients who have received the drug have developed leukopenia or agranulocytosis.<sup>35</sup> Two patients have died secondary to gram negative sepsis. As is the usual case when adverse drug reactions are reported, all of the patients were also on other drugs. Ten patients were receiving drugs which have been associated with leukopenia in the past, and nine patients had underlying immune disorders.

A transient rise in serum potassium has been noted in some patients.<sup>25</sup> Significant hyperkalemia has been reported in patients taking potassium supplements while on captopril.<sup>27</sup>



## Dosage

Initial dosage should begin at 25 mg, titrated up to a maximum of 450 mg per day. While some patients may be well controlled with twice daily administration of the drug, others may require three or four times daily administration. In one study of hypertensive patients, 100 mg twice daily and 200 mg twice daily were compared.<sup>12</sup> Patients receiving 200 mg twice daily had a continuous reduction of blood pressure throughout the day, while patients receiving 100 mg twice daily tended to demonstrate an escape of blood pressure control before the next dose.

## Summary

Captopril is an orally active inhibitor of the angiotensin-converting enzyme which has proved efficacious in the treatment of essential and renovascular hypertension. In acute studies captopril has been shown to improve hemodynamic indices in patients with severe congestive heart failure. Further chronic studies are needed to assess captopril's role in the treatment of congestive heart failure. While clinical studies indicate that captopril may be a very useful agent under certain circumstances, to what extent adverse reactions seen with the drug will alter its role in therapy remains to be seen.

## Acknowledgements

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# Are Your Merchandise Lines Paying Their Rent?

By Leo V. Aspinwall, Head Marketing Division, School of Business,  
University of Colorado, Boulder, Colorado

## SMALL BUSINESS ADMINISTRATION

### Summary

*One of the major items of expense in retailing is rent. Rent may be thought of as a percentage of the sales produced in the space occupied. Whether or not that space is owned by the merchant or leased, the cost of occupancy must be paid out of gross margins resulting from sales. In fact, lease contracts are often based upon a percentage of sales: as sales increase so does rent; likewise, when sales decrease rent also goes down unless some sort of minimum-fixed-rental arrangement is used. The growth of such percentage leases emphasizes the close relationship between sales and rent. Also it underscores the need for a closer examination of the influence of occupancy costs on store layout.*

Customers moving in and out of your front door behave just about as do people on the street. Those who know what they want try to go directly to that item. People with no specific items in mind, move from place to place as their interest is caught by goods on display. These two types of traffic are known as *destination* traffic and *shopping* traffic.

Destination customers tend to move in a logical, thought-out sequence. Shopping customers, taking a largely random approach, almost always *turn to the right* after they enter your front door. Destination traffic generally will not drift to the right because of the slower and unpredictable movements of the shoppers. Instead, these customers *usually turn left* upon entering a store. As a result, shopping traffic tends to circulate through a store in a counter-clockwise direction, while destination traffic moves clockwise. Recognition of this movement provides a key to the layout of goods not only near the door but also within the entire selling space.

Goods with low gross margins and high replacement rates should be located conveniently, say, on a forty-five degree angle to the left of the entrance. This location will afford destination customers immediate access to the staples they buy frequently. It will help them complete their purchases quickly. In contrast, the high gross margin items with low replacement rates should be arranged on the right. When this is done, these goods are seen by the bulk of the shopping traffic; as a result, sales of these items tend to increase.

### Rental Value of Selling Space

Because the space nearest the traffic flow offers the greatest exposure to customers, it has the greatest sales potential. For this reason, the front part of your store is the most valuable. Towards the rear, values decrease. These relationships may be expressed in mathematical terms by the so-called "4-3-2-1 rule," or by the "average rate of value decline," both of which are used in analyzing selling-space values.

• *The 4-3-2-1 Rule.* Suppose, for instance, that you had a simple, middle-of-the-block, one-story store. You have a

50-foot frontage and a depth of 100 feet. The area within the building contains 5,000 square feet each of which must earn its share. The 4-3-2-1 system is a straight-line approach to measuring the decline in space value as the distance from the front of the store increases. It is used as a rough approximation of the relationships between the values of the various spaces occupied. The application is explained by diagram 1. It points out the need (1) for larger sales in the front part of the store in order to support the higher value of that space, and (2) for goods to be arranged so that shopping traffic moving right will be exposed to high gross margin goods while destination traffic moving left will quickly find low gross margin goods.

Many small retailers believe that placing staple items at the rear of the store will cause customers to pass displays of high-margin goods from which they will make impulse purchases. This is sometimes true (for instance, in certain types of firms such as grocery stores where customers typically purchase a number of items at one time), but it is not an infallible rule. Some customers with routine needs resent being obliged to go the full length of a store to get what they want. In fact they may refuse to do so and simply seek another store where these goods are up front.

To be sure, physical elements such as pillars within the store space and the placement of entrances do affect the arrangement of goods. They cause some stores to present what may seem to be a contradiction of these general rules. Nevertheless, alert merchants try to correct undesirable elements so that their stores do follow the normal pattern as much as possible.

• *Average Rate of Value Decline.* While the 4-3-2-1 rule is useful as a rough technique, it lacks accuracy. Therefore, if greater precision in measuring space values is desired, then the so-called "average rate of value decline" method should be used.

This approach, being technical, requires specialized knowledge which most retailers have to hire. As a result, it is often more costly than the value of its findings to very small concerns. However, retail stores having more than 1500 square feet of floor space (30 by 50 feet, for example) should be able to absorb the cost of such an analysis and still make money by rearranging goods according to the findings.

The decline in space value may be presented graphically by what is called an "(r) Factor Curve." It is based upon the fact that, in practice, space values don't drop off at an even rate toward the rear of a store. They decline more rapidly in front than they do in back. The "Curve" is figured out by a statistical analysis of actual customer traffic. From this analysis, a curved line is plotted on a graph. This line shows the change in space values from one part of a building to another. Once the chart is completed, the value of any given location in a

store can, as it were, be "looked up."

Diagram 2 shows what the (r) Factor Curve would look like for the same store illustrated previously in diagram 1. Line "A V" represents the 100-foot depth of the store divided into 20 bands of 5 feet each. All the area from the front of the store back to the line called "average rent" is worth *more* than the average rent (48 cents per square foot per year). All the space from the "average rent" line back to the rear of the store is worth *less* than average.

Comparing the values in diagram 1 with those in diagram 2 will highlight the short-comings of the 4-3-2-1 system. For example, the space value at line "X" by the 4-3-2-1 system is around 77 cents while the (r) Factor Curve method puts it at \$1.43. At line "Y" the value by the 4-3-2-1 system is about 38 cents in contrast to the (r) Factor Curve figure of only 18½ cents. Back at line "Z" the 4-3-2-1 system puts the value at around 19 cents as compared to an (r) Factor Curve value of 8 cents.

### Computing Needed Floor Space

The (r) Factor Curve is also able to provide figures on the amount of space certain goods should occupy. Suppose, for example, that the store illustrated is a drugstore, and that a tobacco department location is at the left inside the front entrance. How much space should be allotted to it?

In this example, tobacco sales last year totaled \$8,640. For stores of this size, figure a sales rate of \$30.00 per square foot. Thus  $\$8,640 \div \$30$  will indicate the space which should be needed to produce this sales volume: 288 sq. feet. Note that *space is computed to the center of the aisle serving the department.*

A 6-foot aisle serves the department, and hence, 3 feet of aisle space must be paid for. Then there is a case containing some of the stock which is 24 inches wide. To this must be added a 2-foot aisle for clerks, and an 18-inch wall case. The total is 8½ feet. Thus, 288 square feet

divided by 8.5 gives a front dimension for the department of 34 feet.

Occupancy in this case costs 5 percent of sales, and therefore, the amount of rent allowable for this department will be  $\$8,640 \times 5\%$  or \$432. Then, if 288 square feet is divided into the allowable rent, the rate per square foot per year can be calculated:  $432 \div 288 = \$1.50$  per square foot per year which can be paid for space to accommodate this department. At this point, the (r) Factor Curve can provide the means of locating an area that has a value of \$1.50 per square foot per year — in the neighborhood of the \$1.43 line on diagram 2.

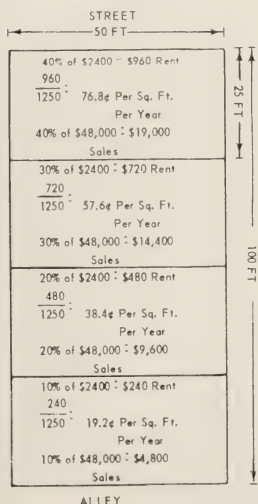
If this tobacco department actually filled 500 square feet, then the sales rate would be only \$17.28 per square foot per year. This would be far below the Association's standard figure of \$30. Moreover, the occupancy cost of 5 percent of the \$8,640 sales was only \$432 per year. To occupy 500 square feet of space worth \$1.50 per square foot per year would cost \$750, almost twice what is reasonable on that sales volume.

Such calculations provide a useful way of making sure that your merchandise lines are paying their rent. It is worthwhile to review your own operations periodically to see that the goods are arranged so as to support the value of the space they occupy.

### For Further Information

Businessmen wishing to explore further the subject of retail store layout may wish to consult such organizations as the National Retail Dry Goods Association, 100 W. 31st Street, New York, New York, 10001; National Association of Retail Druggists, 1750 K Street, N.W., Washington, D.C. 20006; American Marketing Association, 27 E. Monroe Street, Chicago, Illinois 60603; or the Association of Consulting Management Engineers, 347 Madison Avenue, New York 10017. Such groups can often supply the names of specialists who can provide technical assistance.

Diagram 1



4-3-2-1 RULE

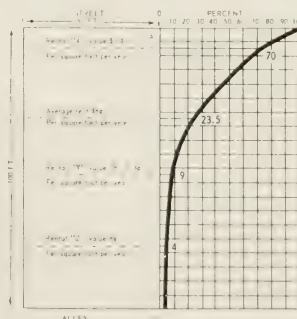
The rent contracted by lease is \$2400 per year. Therefore 5000 square feet divided into  $\$2400 = 48\%$  per year. This is the average rent per square foot per year for the whole store.

Under the 4-3-2-1 rule, 40% of the total rent is assigned to the front ¼ of the space; 30% of the total rent is assigned to the second ¼ of the space; 20% of the total rent is assigned to the third ¼ of the space, and 10% is assigned to the rear ¼ of the space.

Typical rent or occupancy cost for a drugstore is 5% of sales; so that  $\$2400 = 5\%$  of sale, and 1% = \$480, and 100% = \$48,000 total sales.

Diagram 2

Diagram of Rent Calculations by Means of (r) Factor Curve  
Center of City Block Location. Space analysis using .80 as the computed rate of value decline.



Average rent of 5,000 square feet at \$2400 per year contractual rent equals  $2400 \div 5000$  or 48¢ per square foot per year. Value of curve is read at each of the 21 horizontal subdivisions from A to B. Sum of all these values (493.5) is divided by the total number of readings (21) to yield average curve value (23.5). Line drawn from 23.5 point on curve to floor plan of store shows location of average rent of 48¢ per square foot per year.



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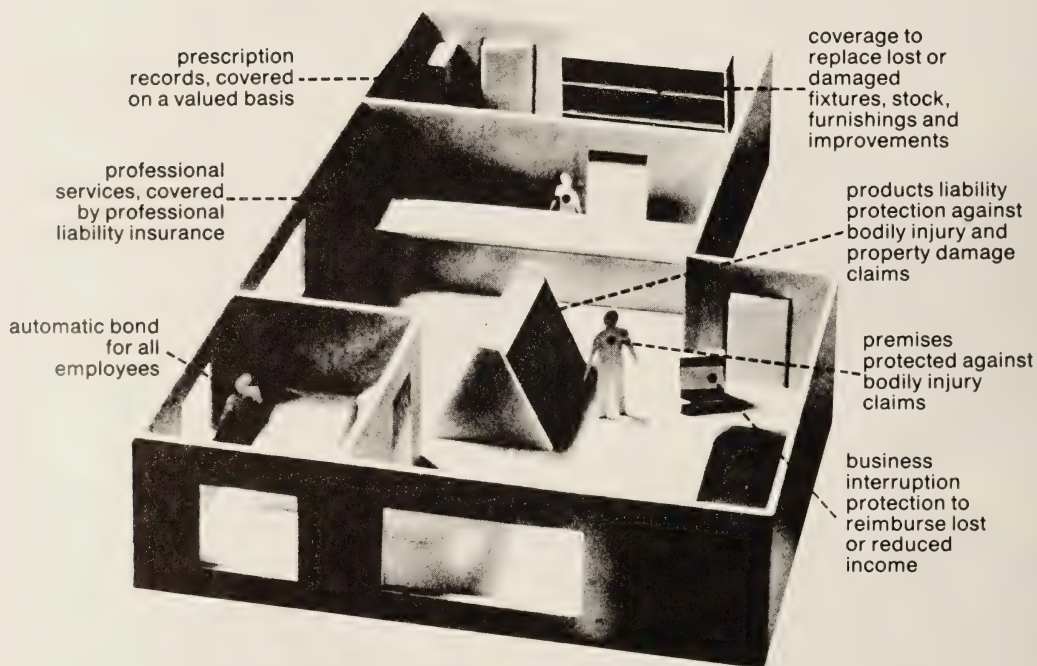


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# GLAUCOMA

Glaucoma currently affects one to two per cent of the world's population, primarily over the age of 40 — or more than 10 million persons. In the past, the disease robbed the eyesight of millions of individuals, the majority of whom did not even know why they were blind.

Vincent van Gogh, the Dutch painter noted for his brilliant colors, might have had glaucoma. Symptoms of one type of developing glaucoma have been observed in the paintings he completed just before his death.

But, even if the artist did have the disease, little could have been done for him in his day. Nearly all new techniques, equipment, convenient systems for delivery of eye medications, and surgical procedures have been developed only in recent decades.

According to the National Society to Prevent Blindness, the best defense against glaucoma is an eye examination at least once every two years. It has also been suggested by other authoritative sources that a glaucoma screening test should be done as part of a routine physical examination.

### What is Glaucoma?

Glaucoma is one of the most common eye diseases throughout the world, including the United States. It is of major medical concern because it is one of the leading causes of partial or total loss of eyesight. It occurs in persons of all ages, from the newborn baby to the senior citizen. However, the disease usually strikes after the age of 35.

Since everyone in this country has not been tested for glaucoma, there is no exact number of those who have this eye disease. The National Society to Prevent Blindness, which calculates that 1,773,000 Americans age 35 or older have glaucoma, estimates that more than half of these cases are undetected.

Glaucoma is due to excess accumulation of a special type of eye fluid known as aqueous humor. This fluid has a normal function in the eye where it fills the space, or chamber, between the cornea (the outermost clear tissue layer at the front of the eye) and the colored ring of tissue called the iris, and the chamber between the iris and lens which lies behind it. This fluid not only helps bathe these tissues so that they remain in their normal state, but also brings nutrient substances to these eye structures, and removes their waste products. The fluid is drained into the bloodstream via channels near the sides of the cornea. When the normal mechanism for draining this fluid fails to work properly, as in glaucoma, the fluid tends to accumulate, leading to increased intraocular pressure and compression of the delicate structures of the eye.

In the early stages of glaucoma, such adverse effects

are usually minimal. With prompt diagnosis and treatment these effects can be readily controlled and often even completely reversed so that permanent damage can be prevented.

Just as fluid accumulation in any other part of the body may be a sign of a serious disturbance in fluid balance, in the eye it is also a sign that something has gone awry. If not corrected, this fluid accumulation can cause a rise in pressure within the eye and against the optic nerve, which transmits visual images to the brain. This pressure can compress the tiny nerve fibers and thereby reduce visual acuity.

If such harmful effects are allowed to continue without proper treatment, permanent damage may occur to both the optic nerve and even the retina — the thin tissue layer at the back of the eye which receives visual images and transmits them to the brain via the optic nerve. Sometimes even the cornea, the thin outermost membrane covering the center of the front of the eye, often referred to as the "window of the eye," may become cloudy from the increasing pressure, thus contributing further to visual blurring.

### What are Signs of Glaucoma?

The glaucoma symptom that most people have heard of is known as a "halo." This occurs when a glaucoma patient looks at a bright object and instead of seeing a clearly delineated, sharply bright object, sees in its place a bright center surrounded by a blurred circle of colored light or a series of rings that form the familiar halo. Van Gogh's later paintings show lights and stars with halos.

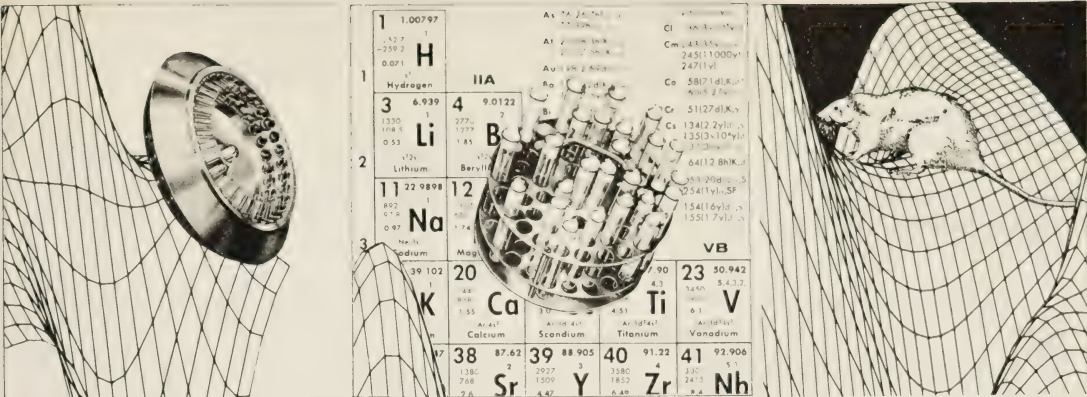
However, it is misleading to believe that this is the first and only sign of glaucoma, or that glaucoma cannot be present as long as there is no halo.

Some persons, especially women over the age of 40, may have as the first hint of glaucoma recurrent severe headaches. Others may merely experience vague eye discomfort, a sensation of a "full feeling" of the eyeball, excessive formation of tears, blurred vision, or persistent irritation and redness of the eye. Still others may notice first of all that they are no longer able to see clearly from the corners of the eye — a suspicious clue that their peripheral vision may already have suffered some adverse changes. In most cases, the pressure build up due to glaucoma is so gradual that no symptoms are noticed until vision is impaired.

### Is There More Than One Type of Glaucoma?

Because glaucoma occurs in more than one form, it is essential that the condition be accurately and precisely diagnosed. The three types of glaucoma known to occur





are primary glaucoma, secondary glaucoma, and congenital glaucoma. There are also acute (sudden) and chronic (gradual) types. While the course and progress of the disease may differ in each type, all of these types are equally serious as potential causes of blindness if allowed to continue without treatment.

*Primary Glaucoma* is due to a still unknown cause, possibly genetically determined. This is the type that accounts for most known cases of glaucoma and it does tend to run in families. It usually occurs past middle age, but sometimes not until old age. Because it is most likely to occur in such older age groups, many people who have glaucoma at this time of life may at first simply think they are experiencing the usual changes in eyesight that come with advancing age and thus may delay seeking a doctor's opinion.

Primary Glaucoma seems to develop without any other obviously connected eye condition and while it may start out in only one eye, eventually it generally involves both eyes. Thus, there is a double risk of total blindness if treatment is not followed conscientiously throughout the patient's lifetime.

There is one kind of Primary Glaucoma that may first start very slowly with very few adverse effects in one eye, causing gradual loss of peripheral vision in both eyes eventually. Another kind of Primary Glaucoma behaves in just the opposite way, with eye pressure rising very rapidly, accompanied by severe eye pain, vomiting, and sudden visual blurring.

*Secondary Glaucoma* is the type in which the eye pressure rises to abnormal levels following either direct injury to the eye or as a result of some disease such as infection (syphilis, for example), diabetes or a tumor. This type of glaucoma is often confined to one eye. While this lessens the likelihood that such a patient may become totally blind, it does not eliminate the possibility of blindness in the single affected eye if treatment is not started early enough.

The third major type of glaucoma consists of a group of glaucomas known as *Congenital and Infantile Glaucoma*. Certain of these are readily apparent at the time a baby is born but other forms may not cause trouble until later childhood or even in early adult life sometime before the age of 40.

This group of glaucomas is the result of certain congenital diseases, whether of the hereditary type or those that develop prenatally while the baby is forming in the mother's womb. In other instances, the congenital type may be the result of inflammation, injury, or a tumor that arises during the prenatal period. There is also a considerable rare type that is genetically caused but not necessarily apparent at birth. It may become evident at some time during the baby's first year and leads to blindness unless surgery is performed in time.

### How Glaucoma is Diagnosed

There is no way that a person can determine for himself whether or not he has glaucoma. Only a physician can diagnose it. This is why everyone should have a thorough eye evaluation as part of a routine physical examination.

Many times even the person with glaucoma may not realize that something is wrong, especially in the early stages of the disease when it is easiest to treat. This is particularly so in the case of patients who have certain diseases such as diabetes, anemia, cardiovascular disease, and those who know there are others in their family with a history of glaucoma.

However, one single measurement of eye pressure is not necessarily conclusive because the pressure within the normal eye is also subject to fluctuations, depending on the time of day, the state of body hydration, and, in women, their menstrual status or pregnancy.

Tight-fitting collars, excessive coughing or other strain on the chest, and even lowering of the head can temporarily change eye pressure to a significant extent. Thus, it is necessary for an eye-care specialist to use one or more of several scientific methods of making certain that there is a consistent and significant tendency for the eye pressure to be elevated before a definitive diagnosis of glaucoma can be made.

One of the commonly used, and painless, means of measuring eye pressure is with a tonometer — a tiny instrument with a minute plunger that has a surface shaped to fit on part of the eyeball. The weight of this instrument causes a slight indentation on the surface of the eyeball. The more pressure the eye exerts outward, the less indentation the tonometer can make. This degree of resistance is measured on the tonometer's scale.



While elevated pressure is the cause of damage in the various types of glaucoma, one person's eyes may be more sensitive or vulnerable than another's. Hence, in eye examinations to diagnose glaucoma, a physician will do additional tests to determine eye function even at ordinarily normal eye pressure levels.

Of course, in any glaucoma test, both eyes are examined since it is possible to have one perfectly normal eye while the other may already have signs of glaucoma.

### How is Glaucoma Treated?

Glaucoma is a disease that has been known for centuries and universally dreaded because until the era of modern medicine there was no effective treatment. Blindness was almost inevitable.

Control of glaucoma is achieved by lowering intraocular pressure with medication or by surgery. A number of highly effective treatments have been developed. Diamox acts in a unique way. For a long time it was known that a particular enzyme, carbonic anhydrase, tended to cause an increase in the fluid within the eye and that this normal body chemical evidently played a vital part in the events leading to glaucoma. Thus, researchers began to wonder if they could reverse this process by finding a substance that would prevent the action of carbonic anhydrase. Diamox proved to be such a compound. It acts by inhibiting carbonic anhydrase and has become one of the most widely prescribed drugs for controlling glaucoma by lowering the inflow of aqueous fluid into the eye. There are glaucoma patients who may have been taking Diamox for 20 years or longer to control their glaucoma.

While Diamox is taken by mouth, there are other substances given as eye drops to lower intraocular pressure. The form of treatment chosen by an eye physician depends on several factors including the type and degree of glaucoma. Eye drops, for instance, may be given to help increase the outflow of the aqueous humor or may be given to change the size of the pupil and thus alter the eye structure to favor fluid balance. Sometimes, both Diamox and eye drops are used simultaneously.

The most important aspect of using medications to treat glaucoma is the regularity of taking or applying medications. It is vital that medication be used at the time intervals recommended by the eye physician, so that the pressure within the eye may be controlled, and the disease's advance may be halted.

Research on glaucoma continues. However, improvements in surgical techniques for those patients for whom surgery is indicated and available drugs have made it possible for victims of the disease to avoid blindness, and for their physicians to halt the progress of the disease for the majority of patients.

## Skip Tracing Is an I.C. Benefit

Have you priced out a skip tracing service lately? It can be an expensive proposition to find people for whom you have no current address. Maybe it's a customer who hasn't paid his bill. Maybe it's just an old schoolmate and you're in charge of mailing invitations to a class reunion.

If it's money you're after, and the amount is large enough, you can get a collection agency to do it for you. They will also want to handle collection, however, and charge you around 50% for the total service. If you go the private investigator route you will find his charges ranging either way from \$30 per hour depending on your location. There is an inexpensive third alternative available to those who have availed themselves of the accounts receivable control and collection system which is offered by I. C. System, Inc., and is approved by the Maryland Pharmaceutical Association.

I. C. System, Inc., provides a number of free fringe benefits to all who enroll in their program. One of these is a brochure that takes you step by step through the skip tracing process used by the professionals. Anyone in your office can handle your skip tracing for you. And, if it's money you're after, you get a shot at collecting it yourself first using yet another free pre-collection tool provided courtesy of I. C. System, Inc.

Last year I. C. System recovered an all-time record of \$38.4 million in delinquent accounts. Untold thousands more are being recovered by association members themselves, at no charge, using ideas and tools provided by the company. If you are not already enrolled, contact the Association office to learn how I. C. System helps members help themselves.

### calendar



- JAN. 10-17 — MPhA ARUBA TRIP
- FEB. 8 — BMPA Annual Dinner Dance — For  
and Man of the Year Tickets call office
- FEB. 26 — CECC Program — "Geriatrics"
- MAR. 17 — CECC Program — "Primary Care"  
— Kelly Building
- MAR. 22 — Fritz Berman Seminar —  
"Psychiatry, Neurology and the Pharmacist"
- MAR. 22-APR. 2 — APhA Annual Meeting in  
St. Louis
- JUN. 19-21 — MSHP Annual Convention —  
Ocean City
- JUN. 21-25 — MPhA CONVENTION —  
OCEAN CITY

Every Sunday Morning at 6:15 a.m. listen to Charles Spigelmirre on WCAO broadcast the Pharmacy Public Relations Program "Your Best Neighbor," the oldest continuous public service show in Baltimore.

## LETTERS



Dear Friend of Pharmacy:

Several months ago you may have received a letter describing the Henry G. Seidman Memorial Fund. This fund was established by those pharmacy organizations in which Henry played an active role as member and officer, the Maryland Pharmaceutical Association, the Alumni Association of the School of Pharmacy, Kappa Chapter of Alpha Zeta Omega Pharmaceutical Fraternity, and the University of Maryland School of Pharmacy.

Henry devoted much of his professional life to the goal of providing quality continuing education programs to the pharmacists in the State of Maryland. Therefore, in establishing a perpetual memorial for him, it seemed most fitting to create a continuing lectureship in his name. The first program, designated the Henry G. Seidman Health Care Lectureship, was held on November 1, 1980. It provided those in attendance with theoretical and practical knowledge in the management of patients with cardiovascular disease. This program was supported in part by contributions made to the memorial fund.

An initial goal of \$10,000 was set as a base from which sufficient income could be generated to perpetuate the lectureship. To date we have reached 35% of our goal. The trustees of the fund and the professional organizations which they represent are grateful to all of you for your support so far. If you have not yet contributed to this worthwhile effort, we encourage you to do so.

Contributions in the following amounts are recognized in the program of the lectureship and will be published in the Journal of the Maryland Pharmaceutical Association:

Guardian \$250	Donor \$50
Sponsor \$100	Patron \$25

You, as well as all of the pharmacists of Maryland, will be the benefactors of your contributions as you continue to gain the knowledge and skills required of today's health care providers. Nothing would have pleased Henry more than to have known that his fellow pharmacists would continue to be served in this way.

Contributions should be sent to the Maryland Pharmaceutical Association, 650 West Lombard Street, Baltimore, Maryland 21201.

Please make checks payable to the Henry G. Seidman Memorial Fund.

Sincerely,  
Trustees of the Henry G. Seidman  
Memorial Fund

Dear Sir:

In order to help cut down on drug abuse I propose the following.

All prescription writers to be required to keep Rx pads on their person or in locked drawer.

All prescription writers to sign and then print their name (or typed) and enter phone number where he or she can be reached for verification.

All drug stores to be required to post a sign at prominent place facing customer at pharmacy counter with following wording: "To help eliminate fraudulent prescriptions, the pharmacist is required to verify with your doctor or dentist any prescription written for narcotics or other controlled drugs."

After regulation or law for above becomes effective, the above should receive heavy publicity in all the media.

Sincerely,  
Sylvan Tompakov

Dear Dave:

This letter is to notify Maryland Pharmacists of a correction that was recently made in the Maryland Medicaid list of reimbursable drugs.

According to the list of non-reimbursable drugs that accompanied Maryland Medical Assistance Program, Pharmacy Guideline No. 28, dated July 1st, 1980, a dosage form of our product *Bentyl/Pb Sustained Release Tablets (SRT/Oral)*, is listed on page 4, *Ineffective Drugs - Final*. This dosage form of *Bentyl* was withdrawn from the market in 1975, and it is highly unlikely that there is any in pharmacies stock.

There is however a dosage form of *Bentyl 20mg with Phenobarbital, compressed tablets, (CT) that are reimbursable. NDC # 0068-0124-61*. Any claims that have been rejected for this product since this regulation went into effect, should be resubmitted for payment.

Would you please notify your members of this as soon as possible. Many thanks for your help.

Sincerely,  
N. E. (Monty) Monticelli  
Government Affairs Manager  
Merrell-National

# Our best friends are our severest critics and our greatest assets.

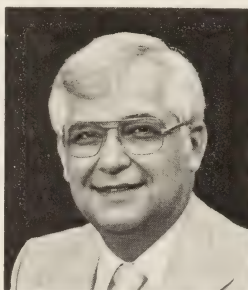
## Meet our 1980 Pharmacy Consultant Panel.



Gerald A. Cox, R.Ph., Exec. Sec.  
Minnesota Pharmaceutical Assoc.  
Minneapolis, Minnesota



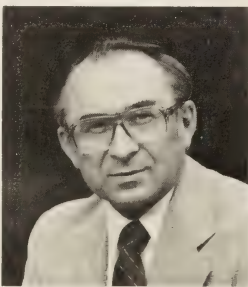
Harold H. Wolf, Ph.D.  
Dean, College of Pharmacy  
University of Utah  
Salt Lake City, Utah



Nelson E. Taylor, R.Ph.  
Community Pharmacist  
Nampa, Idaho



Arthur Koorhan, R.Ph., Div. V.P.  
Pharmacy Operations, Cunningham  
Drug Stores, Detroit, Michigan



David Zitz, R.Ph., Dir.  
Pharmacy and Central Service  
University of Wisconsin Hospitals  
Madison, Wisconsin



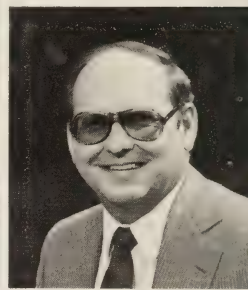
H. Joseph Schutte, R.Ph.  
Community Pharmacist  
Louisville, Kentucky



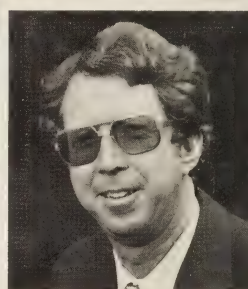
Marianne Ivey, R.Ph.  
Clinical Pharmacist  
University of Washington Hospitals  
Seattle, Washington



Milton H. Miller, R.Ph.  
President, Petty Drug Company, Inc.  
Little Rock, Arkansas



Gary Thudium, R.Ph.  
Community Pharmacist  
Vinton, Iowa



Harland W. Henry, R.Ph.  
Director of Pharmacy  
Memorial Hospital System  
Houston, Texas

sional and other pertinent matters are invaluable.

Their advice and counsel helps us serve you better in the expanding role of pharmacy.

No diplomatic double talk. We need the advice of pharmacists in order to do a better job for pharmacists. The bad news and the good. That's what the ten members of our 1980 Pharmacy Consultant Panel provide. Their views on profes-

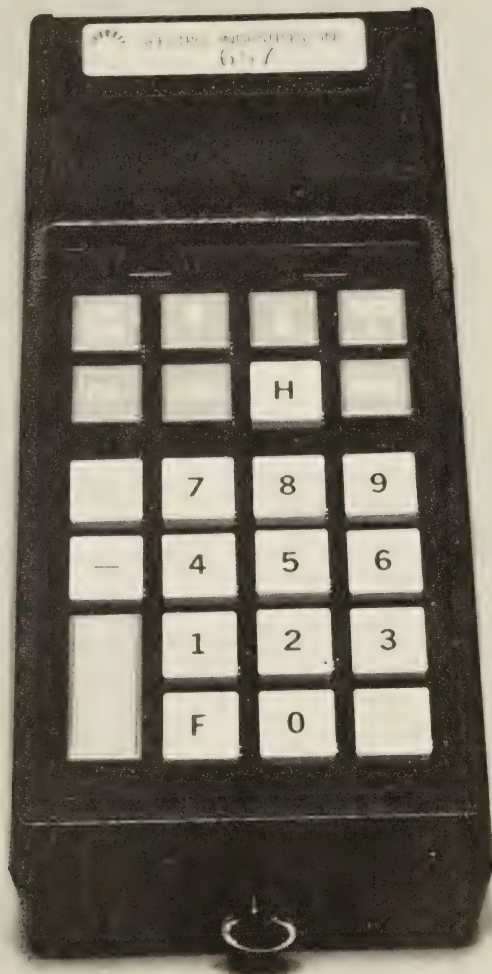
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# USP DRUG PRODUCT PROBLEMS REPORT\*

by the USP Convention, Inc.

## EXAMPLES

12601 Twinbrook Parkway, Rockville, MD 20852 Tel. 301) 881-0666

### EXCESS TABLET CRACKING

A Maryland hospital pharmacist reported that he had to dispose of two to three hundred isoniazid tablets because of fragmentation and cracking over the last six months. The firm examined its retained samples of that lot and although it found only one cracked tablet in 200, the firm indicated that it was considering the possibility that cracking was occurring as the result of pressure exerted on the tablets when the cotton and package insert were added to each bottle and that any necessary adjustments would be made.

### DOCUSATE CAPSULES RECALLED

A bottle of soft gelatin docusate capsules submitted to DPPR by an Illinois hospital pharmacist appeared to have capsules which were empty or flattened. An FDA inspection of the firm's retained samples confirmed the observation in the reported lot and in 90% of the other lots present. The lots which exhibited the defect were recalled by the firm.

### RECALL EXTENDED

An Ohio hospital pharmacist reported receiving two tubes of a cream accompanied by package inserts for another product. USP sent the firm concerned a copy of the report as part of the regular DPPR procedure. The firm then notified the FDA that the lot reported had already been recalled. However, based on this report, the recall appeared to be ineffective. FDA reinspected the firm and as a result, the firm expressed a willingness to extend the recall to all wholesalers and direct accounts which had not been included in the original recall plan.

### SHORT FILLS

Five DPPR reports indicating short fills in vials of potassium chloride injection led the FDA to conduct an inspection of the firm with regard to the underfilled vials. The inspection failed to reveal any problems with lots on hand at the manufacturing site, however, as a result of the reports, the firm instituted more stringent quality control limits for release of the final product.

### MISPELLED BRAND NAME

A report by a Virginia hospital pharmacist noted that the brand name of a thyroid product was misspelled on the label of a specific lot (the misspelling caused the product to appear to have a different name). After the firm was made aware of this error through DPPR they assured the pharmacist that his interest was appreciated and that they would take the appropriate action to prevent such printing errors from reoccurring.

### WRONG SALT LISTED

Comparing the ingredients on the label of an antispasmodic advertised as a "generic equivalent," an astute New York hospital pharmacist noticed the product differed from the brand name article in that the label listed a different salt of hyoscine. The assets of the company originally responsible for distribution and labeling of the product in question had been assumed by another firm; however, the new firm examined records of the bulk materials and confirmed that the product did indeed contain hyoscine hydrobromide rather than hyoscine sulfate as stated on the label. Customers were notified of the discrepancy and inventory was quarantined until it could be relabeled.

### SUPPOSITORY LABEL MIX-UP

A report to DPPR from a Washington hospital indicated that a sealed container of unit dose packaged aspirin suppositories contained one strip of five suppositories which, although they contained aspirin, were labeled as containing promethazine hydrochloride. The firm initiated a recall of the lot. There had been an apparent mix-up of the pre-labeled foil sheets used to package the suppositories.

### ANTISPASMODIC RECALLED

A New Jersey community pharmacist notified DPPR that the package insert he had received with a bottle of 1000 antispasmodic tablets was for a skeletal muscle relaxant. The manufacturing firm's investigation revealed two additional mislabeled containers at the reporting pharmacy's central warehouse and 22 others at another warehouse. The lot was recalled by the firm.

### RESIDUE PROBLEM DETECTED

A Georgia hospital pharmacist experienced problems with prefilled syringes of two different lots of an anticonvulsant. Her DPPR report mentioned crystallization of the product on the needle, residue in the area where the needle attached to the syringe, and discoloration of the solution. Several months after filing the report she received a letter from the manufacturer indicating that an extensive study had been made to determine if the product's design or assembly were the cause or if the trouble was due to the handling of the product. The letter indicated that unfinished hub flanges were apparently at fault and that appropriate recommendations for changes in the specifications for the units would be made. The reporter was thanked for bringing the matter to the firm's attention through the USP reporting system.

# INCORRECT DOSE EQUIVALENT STATEMENTS DELETED

Pharmacists from Florida, New York, and California reported that unit dose containers of acetaminophen elixir were labeled "Each 25 ml (1 tablespoonful) contains: . . ."; and a West Virginia pharmacy extern reported that the phenobarbital elixir unit dose containers from the same company were labeled "Each 3.75 ml (½ teaspoonful) contains: . . .". Each of these individuals received a letter from the firm stating that in the future, dosages on these unit dose containers would be stated only in the metric system without reference to teaspoon or tablespoon equivalents.

# FIBROUS PRECIPITATE

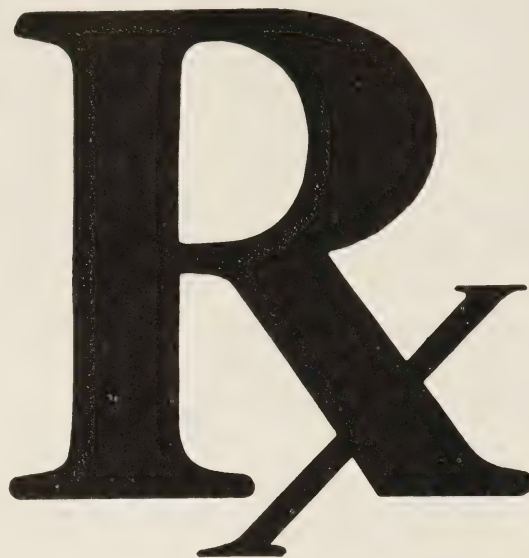
Orange "wool-like" particulate matter was observed upon reconstitution of an antibiotic for injection and reported through the DPPR Program by an Ohio hospital pharmacist. After receiving a copy of the report from USP, the company's investigation revealed the source of the material to be the small felt pads on the pistons of the filling machine. A check of the retention samples for this lot did not reveal any problems, but the firm began replacing these felt pads with caps that would prevent this type of isolated occurrence.

USE THIS FORM  
AND MAIL TO:

Division of Epidemiology and Drug Experience (HFD-210)  
Food and Drug Administration  
5600 Fishers Lane  
Rockville, Maryland 20857

DRUG EXPERIENCE REPORT (IN CONFIDENCE)			Form Approved OMB No. 57-R0071	
PATIENT INITIALS (Optional)	AGE	SEX <input type="checkbox"/> M <input type="checkbox"/> F	DATE OF REACTION ONSET	
SUSPECTED REACTION(S) (We have particular interest in serious, rare and unusual reactions.)				
SUSPECTED DRUG(S); TRADE/GENERIC NAME (Manufacturer's name, if possible)				
DISORDER OR REASON FOR USE OF DRUG(S) (Optional)	ROUTE	TOTAL DAILY DOSE	DATES OF ADMINISTRATION	
OTHER DRUGS TAKEN CONCOMITANTLY				
COMMENTS (Optional)				
NAME, ADDRESS, AND ZIP CODE				





# Rx

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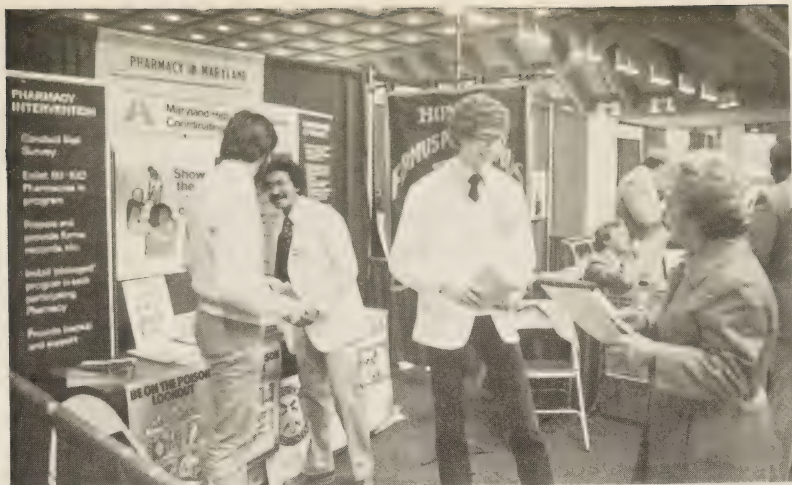
Reading is a tonic for everyone. SELLING the reading material is our specialty. And it should be yours because turnover is the name of your game and nothing you sell turns over faster or more profitably than periodicals.

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The Maryland Pharmaceutical Association joined forces with the Poison Control Center, Elder Ed Program, Student Committee on Drug Abuse Education and the Maryland High Blood Pressure Coordinating Council to present a display on "Pharmacy in Maryland" at the October Consumer Awareness Expo held at the Convention Center. Pharmacists manned the booth during the four day Expo which gave pharmacy excellent exposure and public relations. University Relations Photographer Phil Szczepanski caught this action.

Fifth year Pharmacy Student Gary Magnus (left) receives a special certificate of appreciation from Executive Director David Banta in recognition of the work that Gary did on the Kelly Memorial Building. Gary volunteered to complete a number of projects in the lower level of the building and in the Pharmacy Museum.



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Delegate Paula Hollinger addressed the 1980 Fall Regional Meeting of the Association and explained her proposed legislation on increased penalties for crimes involving hand guns.



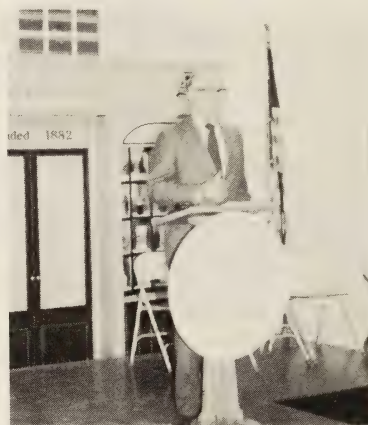
Marvin Friedman (left) outgoing President of the BMPA, receives the NARD Leadership Award from MPhA President Samuel Lichter.

## 1980 Fall Regional Meeting

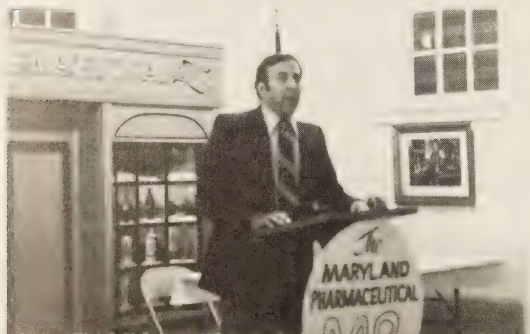
Photos courtesy of  
Paramount Photo



MPhA Attorney, Joseph Kaufman discusses a number of legal issues affecting Pharmacy. The meeting was held October 27, 1980, in the Kelly Memorial Building.



Robert C. Blount, Chief Investigator for the Medicaid Fraud and Abuse Investigation Unit was one of the featured speakers at the meeting.



Speaker of the House, David Serpick, presided over the meeting.



The E. R. Squibb Past President's Award is awarded to Ronald Lubman (left) by Squibb representative Greg Guston.



# All med carts are a good idea.



Beige and brown enameled steel construction.

Cart locking mechanism with interchangeable BEST locking core. Can be attached to wall.

Optional accessories include cup dispenser, needle breaker, night light.

Molded plastic waste receptacle.

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Compact dimensions: 25 1/8 x 19 1/8 x 40 1/8 without accessories or bumper.

40-50 patient capacity accommodates all medications.

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Exclusive anti-pilferage shelf. Keeps medicines in other drawers secure when any drawer is open.

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## Asco's new auto-cart is a safer one.

Only the new ASCO Auto-Cart features an exclusive security design that prevents pilferage when any drawer is open.


To make administration of medicine easier, the drawers open from either side. Between each drawer is an anti-pilferage shelf that keeps other drawers secure. Patients cannot reach in from the other side and take exposed medicines, because there are no exposed medicines.

In addition, there is a self-locking narcotics drawer. And the entire cart can be locked to the wall. All locks use an interchangeable BEST locking core.

As part of the ASCO Uni-Dose System, it holds 30-day blister cards containing pre-measured medications for 45 to 50 patients. There is also a drawer for liquids, PRNs, and supplies.

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# ABSTRACTS

Excerpted from PHARMACEUTICAL TRENDS, published by the  
St. Louis College of Pharmacy; Byron A. Barnes, Ph.D., Editor  
and Leonard L. Naeger, Ph.D., Associate Editor

## CIMETIDINE:

Many articles have been written warning against the long-term chronic use of cimetidine (Tagamet). Patients who experienced relapses in ulcer symptoms were found to benefit from intermittent treatment with cimetidine during the acute phase of the illness. This seemed preferable to long-term chronic use of the drug and should be considered as an alternative in patients who experience relapses with duodenal ulcers. *BR MED J*, Vol. 281, R 6232, p. 20, 1980.

## SEVERE HYPERTENSION:

Intractable hypertension has been treated with a diuretic and the converting-enzyme inhibitor, captopril. The regimen was very effective in reducing the elevated blood pressure, but side-effects limited the usefulness of the combination. It should be used only in cases where blood pressure has not been previously controlled by more conventional regimens. Side-effects which were reported included the development of temporary taste disturbances, tachycardia, nephrotic syndrome and possible drug-induced Guillain-Barre neuropathy. *LANCET*, Vol. II, #8186, p. 105, 1980.

## ASPIRIN ABSORPTION:

Aspirin is an acidic substance which can have its plasma level altered by the administration of agents which alter urinary pH. When the plasma levels of aspirin were established in volunteers, vitamin C or an antacid was administered and the plasma level of the analgesic was monitored. Administration of the acid did not significantly alter the salicylate level in the plasma, but when the antacid (Maalox) was used, the levels of salicylate did significantly drop. This was found to be especially true in patients who had been receiving high doses of the salicylates. *J CLIN PHAR*, Vol. 20, #5, Part 1, p. 326, 1980.

## AMITRIPTYLINE METABOLISM:

Identical doses of the tricyclic antidepressant, amitriptyline (Elavil) have been found to produce a wide variation when plasma levels of the drug were determined. Closer investigation in volunteers has shown that there is a large difference in the rate at which the drug is metabolized by the liver during "first pass" metabolism. This may in part account for the large differences noted in the plasma levels of amitriptyline when the drug is given in the same dose to different individuals. *CLIN PHARM*, Vol. 28, #1, p. 121, 1980.

## NICOTINE CHEWING GUM:

Nicotine chewing gum has been made available in Great

Britain to help people give up the smoking habit. Physicians using the preparation report a 40% long-term success rate and thus this may be a useful method to aid those interested in giving up the habit. The gum is available in 2 and 4 mg strengths and is bound to an ion exchange resin. Ninety percent of the nicotine is released from the resin within 30 minutes. Nicotine is rapidly metabolized if ingested and thus buccal administration is a more effective way of administering the drug. *BR MED J*, Vol. 280, #6231, p. 1599, 1980.

## FENFLURAMINE-THIAZIDE DIURETIC:

Fenfluramine (Pondamin) is an anorexiant which differs from the usual amphetamine-like drugs in that it tends to produce a depression of the central nervous system rather than a stimulant effect. When obese patients being treated with this drug were given a thiazide diuretic to help control hypertension, physicians noted that the effectiveness of the thiazide was dramatically increased. The exact mechanism of action is not yet known, but it seems as if the use of thiazide diuretics in patients receiving fenfluramine will produce a greater-than-expected drop in blood pressure. *CLIN PHARM*, Vol. 28, #1, p. 22, 1980.

## LEG ULCERATIONS:

Leg ulcerations tend to reoccur and have been generally refractory to any treatment. A study was conducted in 15 patients with chronic leg ulcers to determine the effect of a dressing prepared of cultured human amniotic fluid on the lesions. The process appears to produce good results and more extensive testing will be done to further determine the possibility that this procedure will be the most useful yet found in promoting healing of these non-responsive ulcers. *LANCET*, Vol. I, #8179, p. 1153, 1980.

## NEUROTENSIN:

A newly discovered peptide named neurotensin has been found to be released in the plasma from the ileum after the ingestion of food. Volunteers receiving the peptide intravenously were noted to experience an inhibitory effect on both acid and pepsin release by the stomach. The exact role of this 13 amino acid peptide in the regulation of gastric function is still unclear. *LANCET*, Vol. I, #8176, p. 987, 1980.

## ENCAINIDE:

A new orally effective antiarrhythmic agent has been used in a small group of patients. The drug, encainide, produced total suppression of ventricular arrhythmias. It was well tolerated and patients experienced little discomfort even after using it for periods of time as long as twelve months. *N ENG J MED*, Vol. 302, #16, p. 877, 1980.



## HYDRALAZINE:

Systemic lupus erythematosus is a condition associated with the administration of certain drugs. Hydralazine (Apresoline) is one such drug and a group of patients who had developed the condition while taking the drug were studied to determine if there were any predisposing factors which might make a person more likely to react adversely. It was noted that almost all who experienced the reaction were slow acetylators and 80% of them were female. *LANCET*, Vol. I, #8178, p. 1107, 1980.

## AMITRIPTYLINE:

Toxicity produced by the tricyclic antidepressants has been increasing as the use of the drug increases. Several methods have been used to reduce toxicity of the drug including the use of beta-adrenergic blocking agents, physostigmine, bicarbonate, and left stellate ganglionectomy. Bicarbonate apparently is beneficial in that it enhances protein binding of the drug and thus decreases the amount of free amitriptyline found in the plasma. *CLIN PHARM*, Vol. 27, #5, p. 602, 1980.

## CAPTOPRIL:

Captopril is an experimental antihypertensive agent which has been said to exert its effect by inhibiting the formation of angiotensin II. Angiotensin II is a potent vasoconstrictor and may play a role in the production of high renin hypertension. Investigators in Massachusetts have found captopril to increase the concentration of a prostaglandin metabolite which is a potent vasodilator. These authors suggest that captopril may exert a portion of its antihypertensive activity via this mechanism. *J CLIN INV*, Vol. 65, #6, 1257, 1980.

## ORAL ANTICOAGULANTS:

Oral anticoagulants have been associated with the abnormal development of facial structures and fingers in fetuses. It appears that exposure to the drug during the first 8 weeks of pregnancy will cause abnormal development of these structures in addition to hypoplastic digits, stippled epiphyses, and mental retardation. Exposure to the drugs during the second trimester may result in optic atrophy, faulty brain development and developmental retardation. If the drug is utilized during the final trimester of pregnancy, it can produce anti-coagulation of fetal blood and can predispose the infant to life-threatening hemorrhage. Use of anticoagulant therapy during pregnancy should be evaluated. *J AM MED A*, Vol. 243, #15, p. 1549, 1980.

## DRUG THERAPY IN RENAL FAILURE:

Many bits of information have appeared in the literature indicating that the pharmacokinetic parameters of various drugs are altered by a reduction in renal function. An extensive review of this information has been prepared and guidelines for administration of many drugs can be found in this extensive review article. *ANN INT MED*, Vol. 93, #2, p. 286, 1980.

## MERCURY:

Several ophthalmological preparations utilize thiomersal as a preservative. These products were administered to pa-

tients four hours prior to an operation which involved removal of the lenses and sampling of the aqueous humor. Analysis of the tissue showed mercury to be present in concentrations similar to those associated with systemic poisoning by organic mercurial compounds. It is still somewhat unclear as to what clinical implications should be considered in view of this information. *LANCET*, Vol. II, #8188, p. 237, 1980.

## GASTRIC SYMPTOMS PRODUCED BY COFFEE:

Coffee can produce gastrointestinal discomfort, especially heartburn. A test was designed to study the nature of this problem. It was noted that most people secrete the same amount of acid in response to coffee administration, either regular or decaffeinated. The major difference in the symptomatic group was with regard to lower esophageal sphincter pressure. Patients who develop pain apparently do not develop sufficient pressure in the sphincter to prevent esophageal regurgitation. Cimetidine (Tagamet) did help reduce heartburn indicating that acid is responsible for producing the pain. *N ENG J MED*, Vol. 303, #4, p. 122, 1980.

## PROSTAGLANDIN E-1:

Evidence has been presented that associates prostaglandin E-1 deficiencies with schizophrenia and an increase in the dopamine/prostaglandin E-1 ratio. In manic-depressive patients, the concentration of prostaglandin E-1 is excessive and the administration of lithium salts will decrease it. Alcohol also tends to raise the level of prostaglandin E-1, but the concentration falls sharply when the drinking stops. This may be responsible for the depressive episodes which tend to follow a drinking session. The synthesis of prostaglandin E-1 is influenced by nutritional factors including the amounts of essential fatty acids, pyridoxine, and zinc that are available. Thus it appears that nutrition may be a valuable adjunct therapy in both depression and alcoholism. *BR MED J*, Vol. 280, #6228, p. 1363, 1980.

## CHLORDIAZEPOXIDE-CIMETIDINE INTERACTION:

The half-life of chlordiazepoxide (Librium) was determined before and after the administration of cimetidine (Tagamet) in a group of volunteers. The H-2 antagonist was used in doses of 300 mg taken four times daily for one week. The half-life of the minor tranquilizer was significantly increased when the cimetidine was administered. This is at least partially due to a cimetidine-induced inhibition of the metabolism of chlordiazepoxide. *ANN INT MED*, Vol. 93, #2, p. 266, 1980.

## TERBUTALINE:

The preferential beta-2 adrenergic agonist, terbutaline (Brethine, Bricanyl) is used both intravenously and orally to help reduce contractions associated with premature labor. The drug can produce some activity on the beta-1 adrenergic receptor site and if used in high doses it is possible to see physiological and electrocardiographic evidence of this agonistic activity in patients. *J AM MED A*, Vol. 244, #7, p. 692, 1980.



## LEGIONNAIRES DISEASE:

Legionnaires disease has usually been associated with inhalation of air-containing *Legionella pneumophila*. Recently two cases of the disease were reported as having been caused by the presence of the organism in shower water. Chlorine temporarily eradicates the organism, but it may reappear if the concentration of chlorine drops below a minimal level. *LANCET*, Vol. II, #8186, p. 118, 1980.

## ANTIHYPERTENSIVE THERAPY:

The use of combination therapy is increasing if one considers the options open to a physician treating a patient with hypertension. One drug which should be used only alone or in combination only with a thiazide diuretic is clonidine (Catapres). Generally, it should not be used with alpha blockers such as prazosin (Minipres), beta blocking agents such as propranolol (Inderal) and methyldopa (Aldomet). In fact, the rebound hypertension which follows abrupt discontinuation of clonidine is enhanced in the presence of beta-adrenergic blocking agents because these blockers apparently enhance alpha receptor activity. *DRUGS*, Vol. 20, #1, 1. 69, 1980.

## LIVER RESEARCH:

Many studies involving drug metabolism are conducted with liver homogenates prepared from animal tissue. Extrapolation of this data to human metabolism is

often inaccurate so a liver bank has been set up to collect and process human liver samples for use in research. Using livers donated by those who have donated other organs to science, researchers will soon be able to study the metabolism of drugs and toxins in human tissue. The frozen preparations seem to be stable for varying periods of time if kept frozen at  $-80$  degrees. *CLIN PHARM*, Vol. 27, #6, p. 711, 1980.

## PLATELET FUNCTION:

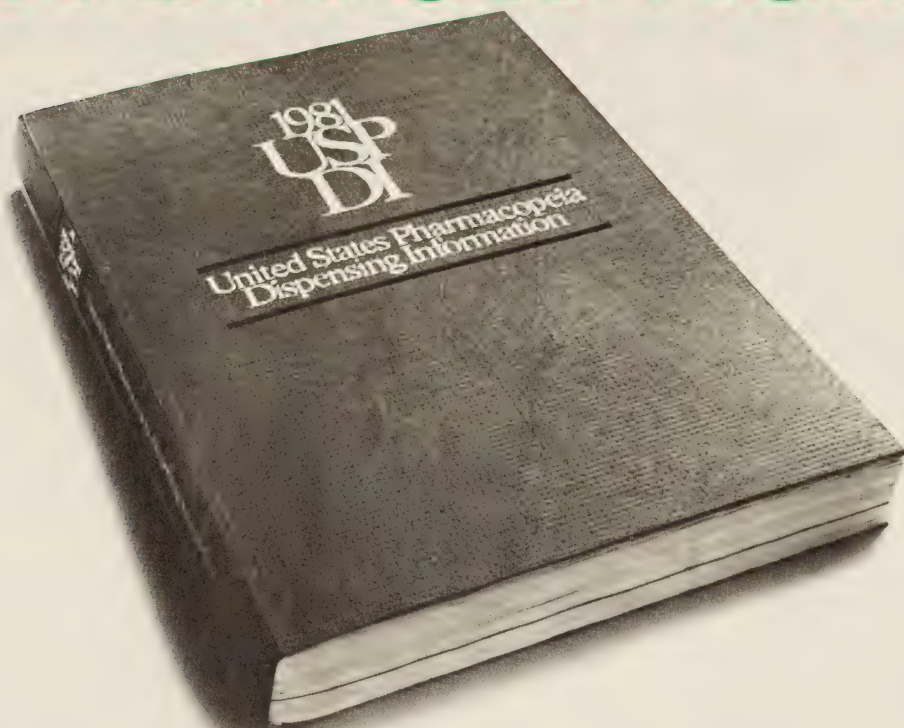
Platelets circulate throughout the vasculature guarding against hemorrhage. Initially an injured site releases certain materials (e.g. collagen, ADP, thrombin, epinephrine) which causes the platelets to aggregate and secrete chemotaxic factors (e.g. serotonin, ADP, calcium) which serve to attract more platelets to the area to produce a strengthening of the plug. During this time, the platelets change in shape from a dish to a sphere. Since secretion of materials occurs during the process, platelets were examined to determine if the microtubular apparatus was associated with this excretory process. Colchicine, a drug known to inhibit the function of the microtubular structure, was added to platelet cultures. No secretion or subsequent aggregation occurred and thus investigators have concluded that the microtubular apparatus in the platelet does indeed secrete chemotaxic factors required for aggregation of the platelets. *J CLIN INV*, Vol. 66, #2, p. 284, 1980.



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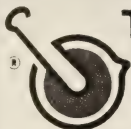


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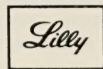
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